FEB 9 1923 Medical Lib.

THE AMERICAN JOURNAL OF

CLINICAL MEDICINE

Vol. 30, No. 2 FEBRUARY, 1923

OUR steps on roads of yesterdays
Can never be retraced;
Each footprint in those now-closed ways
Must stay where it was placed,
Mute evidence of steadfast aim,
Of wanderings, mirings, halts;
Self-made impressions that proclaim
Our courage, failures, faults!

OUR steps on roads of yesterdays
Brought us to where we are:
Where we would be—lost in a maze—
Near to our goal or far.
Yet, tracing backward, we may learn
From how our trail has led
To shun Today each dangerous turn
And keep the road ahead!

G. H. C.

Salysal

SALICYL SALICYLIC ACID MERCK

Introduced as DIPLOSAL

Tonsillitis Influenza Rheumatism Lumbago

Literature on request

MERCK & CO. New York

IN DANDRUFF

LOSS OF HAIR AND DISEASES OF THE SCALP

prescribe

EURESOL *pro Capillis*

A liquid resorcin preparation, exerting a powerful antiseptic and stimulating action on the scalp. It stops the itching, the formation of scales and the consequent loss of hair.

For sale by
MERCK & CO.
New York St. Louis

To be used in 3 to 5 per cent. lotions as scalpwash, also in salves

Literature and samples from
E. BILHUBER, Inc.
25 West Broadway, New York

Liquid Peptonoids with Creosote

has been demonstrated to be a thoroughly dependable product.

It combines the active *and* known therapeutic qualities *of* Creosote *and* Guaiacol, with the nutritive properties *of* Liquid Peptonoids.

It is extremely agreeable to the palate *and* acceptable to the stomach.

The peculiar ability *of*

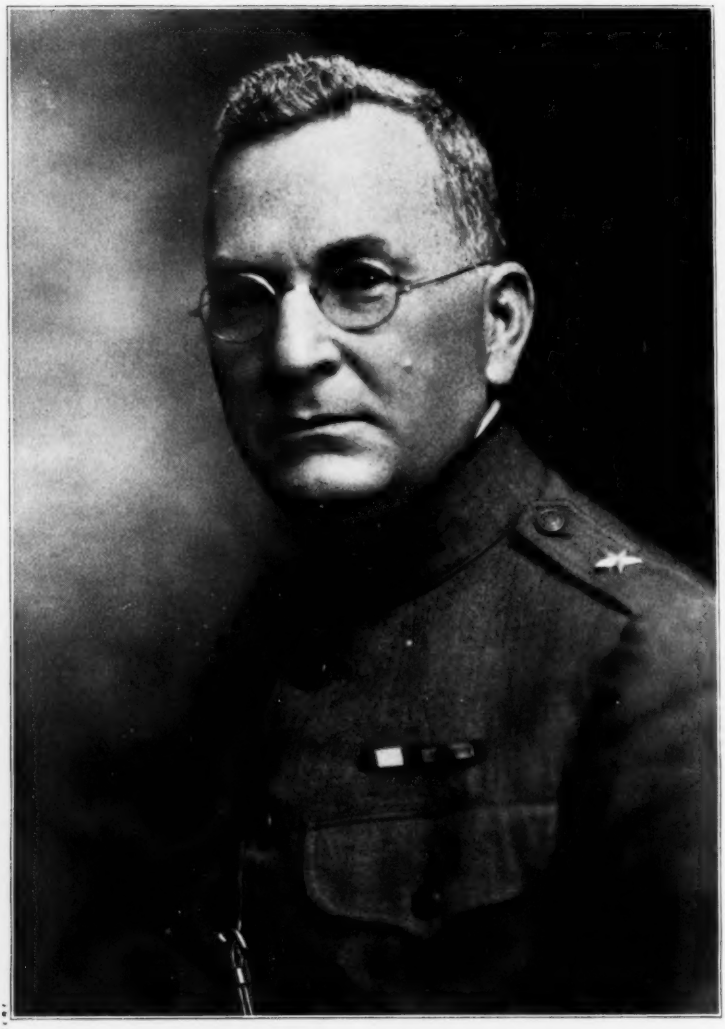
Liquid Peptonoids with Creosote

to check a persistent, "hang-on" Winter cough—should be remembered.

It acts as a bronchial sedative and expectorant.

SAMPLES ON REQUEST

THE ARLINGTON CHEMICAL COMPANY
YONKERS, N. Y.



BRIGADIER GENERAL ROBERT E. NOBLE
Assistant Surgeon General, United States Army

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 30, No. 2 FEBRUARY, 1923

Brigadier General Robert E. Noble

BRIGADIER GENERAL ROBERT E. NOBLE was born November 5th, 1870, in Georgia, and received the degree of Master of Science from The Alabama Polytechnic Institute, when a little over twenty years of age. Eight years later, he graduated in medicine from the medical department of Columbia University of New York. In 1901, he passed the entrance examination for the medical corps of the Army as first lieutenant. Five years later, he was promoted to the rank of captain and, in less than four years, he rose to the grade of major, medical corps.

His most noteworthy work was done as assistant to General Gorgas in the Panama Canal Zone, where he found ample opportunity for initiative in sanitary and administrative posts of responsibility.

He accompanied General Gorgas to the capital and, at the outbreak of the World War, was given duties involving the building up of the huge volunteer medical corps. He made extensive trips of inspection through the various concentration camps in the United States. In May, 1917, he, with many other regular-army medical officers, was raised to the rank of lieutenant colonel and, early in 1918, to the grade of colonel in the National Army. In May, 1918, he was made brigadier general, National Army, Medical Corps. In October of the same year, he was appointed assistant surgeon general with the temporary rank of major-general, and sent to France.

For a long time, he served as chief surgeon of Base Section No. 2, comprising a large section of southeastern France, containing many base and camp hospitals, embarkation camps, depots, etc. In addition to having disciplinary and supply control of all hospitals, the problem of returning thousands upon thousands of sick and wounded officers and men to the United States was a tremendous piece of administrative work which was carried out without a hitch.

For a brief period, General Noble was in charge of medical activities with Base Section 5, at Brest. Then he returned to the United States and was assigned to duty in charge of the Library of the Surgeon General's office.

General Noble was appointed a brigadier general in the regular establishment, in March of 1919. He received the Distinguished Service Medal. The French Government conferred on him the Legion of Honor, grade of commander.

General Noble has a tremendous capacity for

work, and for hard work. A man of rare judgment, he is a quick thinker, capable of overcoming great obstacles and difficulties by will power and determination. In the prime of life, he is already counted among the most valued officers of our army.

One of the surest keys to success lies in thoroughness. No matter how great may be the enterprise undertaken, a regard for the small things is necessary. Just as the little courtesies of every-day life make life worth living, so the little details form the bone and sinew of a great success.—Edward Bok.

WANTED—A VOICE

In concluding his article, "Mene Mene Tekel Upharsin," which appeared in the "Good Medicine" department of the January issue, Doctor Candler expressed the opinion that "perhaps, if we bucked up and developed a *Voice* which could be *heard* when we raised it, together with a corporate kick ('to be used in emergencies only'), we might be happier"—and less liable to suffer insult and injury at the hands of the ungodly." "We", of course, means the real body of the Profession—those thousands of practicing physicians who by the very nature of their calling are more or less isolated from their fellows and, like "the sheep before her shearer," *dumb* when it would seem vitally necessary to utter an effective protest against procedures which despoil, or otherwise injure, them most seriously.

That the doctor fully realizes his discomfort when things are "put over on" or being "rubbed into" him, goes without saying, but his wail of anguish or howl of protest, uttered as it is, *solo,* attracts no definite attention and, bearing no threat of a really potent *kick* behind it, fails to halt the particular "skinning" or "roasting" process to which he is at the moment being subjected.

On dispassionately reviewing the happenings of the past decade, we are compelled to conclude that at least half the casualties, We have suffered during that period, could have been prevented had we been able to express ourselves *tout ensemble* and *forte fortissimo!*

It is not difficult to imagine what would have happened in a score of instances where We—or a large proportion of us—suffered at the hands of politicians, ringsters or uncouth marauders with a reforming bent, if even fifty thousand physicians had been able with one voice to shout "Stop Thief!" or even merely firmly declare, "We will not have it so!" The Thief *would* have been stopped and the things, *We* willed should not be done, would Not have been accomplished! True, the mere Voice perhaps would not suffice to stay the ravening hand, but the knowledge that, behind the Voice, there was a fifty-thousand-Doctor-power *Kick* would have a very decided inhibitive effect.

Just how the necessary Voice (and concomitant Kick) may best be developed, is what interests us particularly at this moment. Surely, we need both! Offhand, the easy going (and thinking) reader may be inclined to express the opinion that the Great American Doctor has *several* voices—that he is, if anything, oversupplied with journals which advance his views and defend his interests.

But, has he, really?

Are not most of the publications, supposedly "representing the Profession", *whispers,* not *basso profundo* Voices? Don't most of them, as a matter of fact, represent the interests or views of a rather small circle of individuals! Do any of them make any very intelligent attempt to secure the General opinion of working doctors throughout the country upon any subject to their interests germaine? Or dare they put up a *real* fight—knowing that they will be loyally backed by the great rank and file—if the necessity for *fight* arises? And it is well to bear in mind the fact that you get very little here below unless you *do* fight for it! Consider the question earnestly—honestly—and draw your own conclusion, as we have drawn ours.

Admitting that one, two, or even more, of the distinctly Medical journals now published do, in a way, represent the doctor and his interests, do they by any chance or in any way reach even a tithe of nonprofessional readers who get *their* ideas and form *their* judgments from the printed word sent out broadcast by opposing forces? To make our Voice (and Kick) effective, we must often present our case (save in distinctly intraprofessional matters) to the people at large. Therefore, it appears to us, that the Voice will have to be a virile, aggressive periodical with a large circulation among doctors, containing not alone really informative medical articles but carefully garnered and dependable News of every kind which is of real importance to the physician. It must maintain a "Stop! Look! LISTEN!" department, and sound the siren whenever it sees Comanches creeping up to attack. And, when it *does* sound the warning, it will behoove the men, whose Voice it is, to get busy and lubricate the kicking apparatus!

It might appear to be, but really is not a difficult matter in these days for an intelligently trained central VOICE to express, with bell-like clarity, the approval or disapproval of a hundred thousand individuals—*provided, of course, that they don't shout different tunes.*

Moreover, it appears to us that, at this particular time, it would be a simple matter to formulate "Articles of Faith" which could be loyally supported by a hundred thousand medical men in this country. More than that, perhaps. And each subscriber to those articles would also be a subscriber to the VOICE—and make himself heard through and by it. If such a VOICE once functions, it must ever be supported by the Kick, and in turn must itself be beyond the suspicion of uttering false or self-interested notes. It must indeed be a VOICE with an ear to hear, an eye to see, a heart to feel, a conscience to guide it, and a big right foot! Further, to make itself distinctly heard, the VOICE must reach beyond the mere professional ear and, to accomplish this, must discreetly and at the right time whisper through nonprofessional speaking-tubes and on occasion talk out very distinctly direct to the laity in general. The people are being "educated." Let us lift *our* VOICE and educate them a little further—and along desirable lines.

The more one thinks of it, the more, surely, he will be convinced that Doctor Candler has presented us with a perfectly good egg, and it seems to us that it would be distinctly advisable to see what we can hatch therefrom. We therefore shall welcome and earnestly ask for ideas and suggestions. Let us hear *your* VOICE please—Now.

An effort made for the happiness of others lifts us above ourselves.—Mrs. L. M. Child.

WHAT IS A SENSE OF HUMOR?

We frequently talk of the "Saving grace of a sense of humor" without, in most cases, paying heed to just what it means to possess this commodity. To be able to laugh at a joke, whether true or spurious, to enjoy somebody else's discomfiture (for instance, an old gentleman losing his tall hat or an old lady being snowballed by a bunch of young hoodlums on the street) is not humorous; it is not funny; it rather shows a perverted nature. To laugh at the alleged funnies on the last page or the last page but two (wherever they may be) in the daily newspapers, does not imply the possession of a sense of humor. It may be something entirely different that induces the cachinnation. A sense of humor, as we conceive it, is closely allied with an ineradicable optimism. It is a part of the ability to see the bright side of things, to be cheerful, as Mark Tapley has it, who took no credit for being cheerful under favorable circumstances and who almost wished that reverses might strike him so as to test his lasting possession of cheerfulness.

Nor is a sense of humor allied in any way to cynicism. We must confess that we haven't any use for cynicism or for the cynic. He appears to us as a very immature sort of a person, as somebody who not only has not learned the lessons of life but has absolutely failed to take them to heart; somebody who sneers at things that are dear to others, somebody who hides the active manifestations of his jealousy, of his sense of inferiority, under his cynical experiences.

Sterne declared that "it is not in the power of every one to taste humor, however he may wish it. It is the gift of God; and, a true feeler always brings half the entertainment along with him." We agree with E. P. Whipple, when he says that "humor implies a sure conception of the beautiful, the majestic, and the true, by whose light it surveys and shapes their opposites. It is a humane influence, softening with mirth the ragged inequalities of existence, prompting tolerant views of life, bridging over the spaces which separate the lofty from the lowly, the great from the humble." Carlyle is right in his assertion that "true humor springs not more from the head than from the heart; it is not contempt; its essence is love. It issues not in laughter, but in still smiles which lie far deeper. It it a sort of inverse sublimity, exalting, as it were, into our affections what is below us, while sublimity draws down into our affections what is above us." The essence of humor Carlyle conceives to be "sensibility; warm and tender fellow-feeling with all its forms of existence." For that reason, whenever you find humor, you find pathos close by its side. Somebody has said justly that humor always has tears close to it.

"Men of humor," according to Coleridge, "are always in some degree men of genius. Wits are rarely so, although a man of genius may, among other gifts, possess wit." Witty persons often are sharp, acrid in their characterizations of their fellow-men; true humorists are never unkind, even though they may be emphatic in their disapproval of what they conceive to be wrong. Socalled humorists, at least professional ones, those who manufacture jokes for the funny papers at so much per, are not necessarily endowed with a sense of humor. In fact, humor does not necessarily

imply the ability to make people laugh, no matter how useful that may be; for, it has been truly said that laughter is the most healthful exercise. It is one of the greatest helps to digestion, and the custom prevalent among our forefathers and at this time, of exciting it at table, by jesters and buffoons, was founded on true medical principles.

It is a sad fact that reformers, fanatics, people with one-track minds are sadly lacking in a sense of humor. If they were so fortunate as to see how excruciatingly funny they often appear to others, they would give up their reforming, their preaching, their intensive world-improvement. Saint Paul was hopelessly devoid of humor, but we imagine that John, whose message: "Little children, love ye one another" expresses so much, often smiled and even chuckled delightedly at some happenings, even though, just as often, the tears were nearer to him that the smiles.

Humor is never gross or crude, although we employ the term "gross humor" occasionally. We may laugh at both, "gross" (alleged) humor, or funnies, and true humor. Fatty Arbuckle's antics often made us roar until our sides ached; but they did not possess humor. On the other hand, Charlie Chaplin's gentle, seemingly spontaneous and unmeditated stunts impress us as being truly humorous; and the sad look that never leaves his eyes, the idealism that is manifest in every paragraph in his recent travel letters, show the close relationship of humor and sadness. We doubt whether Rabelais may be called a humorist, though his coarse, gross jests may incite riotous laughter; but we delight in the delicious humor of a Dickens, a Mark Twain, despite the fact that as often as not our chuckles of enjoyment are modified by attacks of rapid swallowing, by choky sensations, by little gulps as if to keep the tears from coming.

While a gift of humor is truly "needed in every household," we opine that people having much to do with others, or those in public or semipublic positions are lost without it. What do those unfortunate physicians do who can not smile, within themselves, at some of the awful cracks that their patients commit? What do ministers, school teachers and many others do if they are not so gifted as to find delight in some things that make others tear their hair out. You remember Myra Kelley? Truly, her task in one of those Lower East Side schools, with their mixed populations of Jewish, Irish, Negro people, not to mention a sprinkling of Syrians, Armenians, Chinese and others, was not an easy one. Instead of pining, she utilized the many experiences, harrowing and irritating though they must have been, for writing some of the most delightful, delicious stories that have ever come to our knowledge. But, we are wandering too far afield.

There is no doubt about it that the possession of a sense of humor is stimulating to a healthy mentality. Come to think of it, a mentality that is not healthy could not possess humor. Indeed, humor itself is incompatible with anything pathological. As we conceive it, one good test for the possession of this desirable gift is the ability to laugh heartily and joyfully even though the joke is on one's self, the willingness to tell a good story on one's self, the readiness to make the best of one's occasional stupidities and to accept the consequences gracefully.

A sense of humor is something that certainly no editor can afford to be without. There is hardly an issue of any publication which does not contain articles for the publication of which the editor is cussed out by some and applauded by others of his readers. Speaking for ourselves, we are in frequent receipt of letters from physicians (in good standing, mind you, and of undoubted qualifications) commending CLINICAL MEDICINE and praising its "differentness", its editorial policy, the variety of its subject matters, and so forth. For the good of our souls, we assume, these bouquets are counterbalanced by other letters such as one, for instance, in which we were told that the reading matter of CLINICAL MEDICINE is valueless for an up-to-date hospital man, or another one in which we were enjoined to take the articles published in CLINICAL MEDICINE out of the kindergarten class. In short, there is a sufficient number of cordial knocks to prevent our heads from reaching into the clouds and expanding, because of the boost that fortunately come usually in the same mails.

People, interviewers and others, who have come in contact with Mr. Coué, speak of the twinkle in his eyes. That proves to us that he is gifted and endowed with a sense of humor. If he were not, he could not possibly have been as successful in his dealings with the sick as he has been. We are far from suggesting that his greatest success is in the case of those people who have nothing the matter with them; indeed, to be cursed with periodical and chronic blues, to have acquired a gloomy outlook on life; to be persistently complaining and feeling badly, is the very reverse of humor and it requires a superabundance of it to overcome the complaints of such people and to talk them out of them. Not unlike Mr. Coué, as already

remarked, physicians find the possession of a sense of humor a wonderful asset. It enables them to bear up under their infliction. It makes it possible the better to cheer their patients and to help them to maintain a hopeful, courageous attitude of mind, despite illness. And that, in itself, is a vital factor in prognosis—especially in mental and physical ailments.

The very society of joy redoubles it; so that, whilst it lights upon my friend it rebounds upon myself, and the brighter his candle burns the more easily will it light mine.—South.

DEFAMATION IS NOT CRITICISM

Since the days of ancient Babylon and Egypt, physicians have been the butt of more or less clever jokes and, often, of stupid vituperation. When the writer of the Book of Chronicles recorded the account of Asa (XVI, 12, 13) who fell ill and called the physicians and—slept with his fathers, we imagine that he chuckled as he leaned back in his desk chair and remarked to his steno: "There, I guess that will hold those plaguey sawbones for awhile."

The Elder Pliny, we are informed, was bitter in his disapprobation of physicians who, to be sure, in his day, were mostly slaves or, at best, freedmen. Through all the Middle Ages, physicians suffered cruelly from the disregard in which they were held as a class, usually because of the illegal practices of charlatans and other irregular practitioners for which the whole fraternity was held responsible.

It is a pleasing variety to read, in Montaigne's "Essays" a more kindly criticism of physicians and to see that he fully realized the difficulties which they had to contend with. Less charitable was Molière who held our profession up to ridicule that was, often, unmerited and gratuitous.

Not but what it must be admitted that the practices of olden times were open to serious disapproval and blame—judging them by the *standards of our time.* However, it is a serious error to judge customs, habits and acts of any periods by any other standard than the one of that particular period.

Whatever the shortcomings of physicians may have been and may be, it can not be denied that they always are actuated by the honest desire to do good, to help the sick, to relieve suffering and to restore health. Methods may have been and may still be mistaken. Many of them are, no doubt. Still, in every walk of life, errors are committed and one may not lose sight of the fact that physicians are not supermen, that they are but men, subject to all human errors and failings.

Garrison ("History of Medicine") says that the history of the advancement of medical science is the history of the discovery of a number of important fundamental principles leading to new views of disease, to the invention of new instruments, procedures, and devices, and to the formulation of public hygienic laws, all converging to the great ideal of preventive or social medicine; and this was accomplished by the arduous labor of a few devoted workers in science." . . . "History teaches everywhere that permanent ignorance and superstition are the result of the oppression of mankind by fanatical overmen. In medicine, this is sometimes ludicrously true."

There is no doubt about it that the scoldings, the aspersions, the vindictive vituperation heaped upon those attempting to contribute to the progress and development of medical sciences have hindered such advancement materially. In the first third of the last century, Jacob Henle expressed, in his essay "On Miasms and Contagia" the first clear statement of the idea of a *contagium animatum.* It was not until thirty years later that this idea was developed by Pasteur, by Koch and then by others. Semmelweis and also Oliver Wendell Holmes insisted upon the contagious origin of puerperal fever. Both met with the violent opposition of the professors, the "keepers of the temple." Virchow's implied and expressed antagonism delayed the development of immunology as a logical consequence of bacteriologic study for years. It has always been true that innovations, new discoveries, progressive measures were opposed most fiercely by those in authority and in power and that progress has been made in spite of the leaders, not because of them.

If unjust adverse criticism hurts and does harm when it comes from those of one's own profession who ought to have an open mind and whose knowledge, one might think, should enable them to realize what is promising in the new, such criticism becomes all the more objectionable when it is offered by one who is not a physician and who has no knowledge of the difficulties, the trials, the honest attempts and efforts that are constantly made. For an outsider of that kind, to rail at physicians as a class and accuse them of being fools, ignorant, careless, callous, solely actuated by the sordid desire for gain, leaves an exceedingly unpleasant taste in one's mouth. One is affronted and disgusted, as though by something unclean, by invective that is dictated by a small mind,

envious or, worse, a deliberately slanderous mentality.

When we reviewed Paul DeKruif's book entitled "Our Medicine Men," in CLINICAL MEDICINE for December (p. 780), we had not read his article in the December issue of *Hearst's International*, entitled "Vaccines for Broken Legs" which is No. 4 of his series on "Doctors and Drug Mongers." In keeping with our custom, we expressed our appreciation of that for which there was a basis of truth. It would be futile to deny that there is nothing to be criticized, nothing to be improved in the practices and methods of physicians. Physicians are the first to realize this fact and, as a class, take kindly, sometimes perhaps too eagerly, to suggestions promising improvement. However, we confess that, had we then read this vaccine thing, our approval of the assertions made by our bitter antagonist would not have been so sincere; it would have been qualified by some forcible objections.

Doctor DeKruif amuses himself, railing at the "gullibility" of physicians in the matter of employing bacterial vaccines, even as he has sputtered before, in a manner that necessarily aroused ridicule, against the employment of many drugs. In speaking of bacterial vaccines, it might be supposed, at first sight, that DeKruif does not base his reasoning on hearsay evidence as he did in those other articles, but that, being a bacteriologist, he might have some first-hand information to go by. Unfortunately, this is evidently not the case. It has been brought home to us convincingly that, to be a bacteriologist, does by no means mean to be an immunizator. No matter how versed one may be in bacteriology, that does not entitle one to speak authoritatively concerning the reaction of the organism to the invasion of bacteria or to the introduction of bacterial substances.

Doctor DeKruif weakens any force that his arguments might possess by being guilty of serious contradictions. He admits that the proper use of vaccines ("especially in the prevention of certain diseases") is one of the most notable of the triumphs of modern medicine. Yet, he virtually wishes to deprive physicians of the right to use these remedies, alleging that they are too ignorant, too stupid even, to learn proper methods. He says that, "it is justifiable to place such things (namely, preparations which, when used without the highest skill, are dangerous to human life) in the hands of highly-trained intelligent doctors. Their . . . indiscriminate sale to *all* doctors demands the attention of the public and the medical profession alike." DeKruif indulges in personalities and pours out the vials of his wrath especially upon Doctor Sherman and upon Parke, Davis and Company as "vaccine venders" for whom, in his opinion, drawing, quartering and burning at the stake would not be enough. His immoderate and clearly ill-founded accusations fortunately serve to destroy the effect of his arraignment, to the intelligent readers, to those who think. *Un*fortunately, this series of articles evidently caters to the unthinking, to those who are most prone to listen to plausible, vociferous and, from choice, to defamatory accusations.

By the way, we wonder if DeKruif and his kind realize the immeasurable harm that they do to the *dear people* in whose behalf (supposedly) they have taken up the cudgels. Do they understand that, in times of stress, in periods of serious epidemics, of accidents, of dangerous disease, physicians are necessarily called upon for assistance and that it is brutally unkind, indeed, criminal, to destroy deliberately and with evident malice the faith of people in the ability and even in the honesty of medical practitioners? It is a serious thing to imply that the one hundred and fifty thousand (about) physicians in this country are fools, if not worse! It requires a great deal of assurance to pillory and to castigate so many people who belong to one of the learned professions, whose general and special education is usually above that of the average and whose good faith can not be questioned without offering an unmerited and unpardonable insult.

We spoke of DeKruif's personal attack upon Doctor Sherman. This attack, by implication, affects The Hygienic Laboratory, at Washington, which has issued a license to produce and market bacterial vaccines to Doctor Sherman, on the basis of a careful inspection of his laboratory facilities, and exercises continued control of his products. True, The Hygienic Laboratory does not guarantee these biological preparations to be, or to accomplish, what is claimed for them. It only declares that the preparations are made properly and that they are free from injurious contaminations. Nevertheless, the fact that The Hygienic Laboratory permits the production and sale of bacterial vaccines should make any one hesitate to condemn these remedies in such unmeasured terms as has been done.

To limit the right to employ bacterial vaccines to physicians "of the highest skill, highly-trained and intelligent" would, if carried to its logical sequence, make it necessary to forbid the administration of drugs like strychnine,

aconitine, digitalin, atropine and numerous other potent remedies by any but "highly-trained and intelligent doctors." Besides, who shall say who are to be classed in this manner? As a matter of fact, DeKruif would be surprised to find how numerous are the Weelum MacLures in the country, at the cross-roads, in the mountains, in the backwoods generally. He would be astonished on finding how competent, how observing and how capable of acting upon the results of their observations are these men who have to fight lonely battles against disease and death. In truth, the less-well qualified physician is more likely to be found in the shadow of the hospital and of the clinic (we do not say, *in* the hospital and *in* the clinic, but in their shadow) because, to them, it is made too easy to get help and information.

It would be futile to make our talk even dryer than it is, by taking up the various contradictions and inaccuracies that are found in DeKruif's article on "vaccines for broken legs." We submit that his methods are objectionable and that his remarks are largely incorrect. Nevertheless, one or two points may be made. DeKruif condemns, almost without qualification, stock vaccines in favor of autogenous bacterins, on the strength of some unsupported assertion that the latter are more "scientific" and, therefore, necessarily must be better. It has always seemed to us that the employment of autogenous bacterins is less scientific. They include strains of germs which have become habituated to the resistive efforts of the organism in which they manifest their particular damage. If these resisting defensive efforts were sufficient, bacterial disease could not have occurred. To attempt a stimulation by "a little of the same, please," seems futile. It surely is far more sensible and more truly scientific to utilize different strains of the same germs, in order to stimulate the more certainly the immunizing forces of the sick organism.

When DeKruif ridicules Sherman's list of bacterial vaccines and his list of diseases in which these may be employed, he intimates that the remedies are offered as the sole and exclusive treatment for diseases. Practitioners of medicine are well aware of the fact that a bacterial vaccine can form only one phase of the treatment and realize the necessity of utilizing, stimulating and increasing the body's defensive powers by efforts tending to promote nutrition, encourage elimination; the need of adopting hygienic precautions, in short, of making use of all measures that can contribute to a favorable progress and termination of the disease.

The habit of numbering remedies that may be used in the treatment of (not, *for,*) certain diseases, is a very common one. We remember, years ago, when in the out-patients' service in the Massachusetts General Hospital, that some formulas and prescriptions were habitually ordered by number. We believe that even today numerous hospitals have such numbered prescriptions or at least formulas known by readily understood abbreviations. It would be silly to accuse these institutions or the attending physicians of treating diseases by numbered prescriptions. Let Doctor DeKruif remember that physicians do not treat diseases; they treat the patients who are subject to disease. They have definite ideas what the various remedies employed can do and what they do accomplish.

Whether the administration of bacterial vaccines, when done "without the highest skill," is dangerous to human life is yet to be proved. It may be said in isolated instances that, in the past, serious injury has been done by such biologic preparations as the old tuberculin, as it was administered soon after its first introducion. However, tuberculin can not properly be designated as a vaccine; it is much rather a powerful toxin. As a matter of fact, bacterial vaccines, as they are prepared today, and properly administered, do not do the harm that their opponents picture in horrible colors. It is to be said, moreover, that very few physicians who have employed bacterial vaccines in actual practice, *lege artis,* are opposed to the method. The criticisms, the condemnations originate with academicians, with laboratory workers, with theorists or, at most, with clinicians who have *no practical, clinical knowledge* of these remedies.

It is fortunate for Doctor Sherman that, after all, he has no kick coming for having been singled out so sharply from among all the other makers of bacterial vaccines in this country. He was taken as representing a group and, really, DeKruif paid him a compliment in distinguishing him in that manner. We hope that Doctor Sherman's innate sense of humor will convince him of the correctness of our opinion and let him feel properly gratified.

DeKruif concludes his remarkable production with these words:

"If the profession does not wash its own dirty linen, the disagreeable duty will have to be done by others. That is the principal purpose of this series. If the doctors insist on being fooled, *some* power will have to arise that will make it harder for them to be fooled." [Dr. Paul DeKruif is evidently quite willing to be "some power" and to do "the disagreeable duty". We are grateful for his disinterested help.—Ed.] . . . . . .

and so on. Really, one might think that De-Kruif had morons and worse to deal with; that he was entering (quite disinterestedly! oh, quite!) upon this crusade very much against his will; that it hurts him far worse to scold the doctors than it hurts them. It does *not* hurt them; very much. But, it will do great harm to the people who are foolish enough to be influenced by these vaporings.

After all, the medical profession has always managed to wash its dirty linen quite *en famille*, as is proper. It has been grateful, at times, to outsiders for having pointed out certain spots in its cloak that were not apparent to its own optics. You can not see your own back, you know. However, if "others" are to be delegated as washer-women, it may be well to make a careful selection and to make sure that the appointed cleanser be properly qualified, himself free from blame, capable and learned, and that he have accomplished at least some remarkable results that would entitle him to speak as one in authority. Moreover, cheap clap-trap is not convincing. Honest criticism does not require mud-slinging. Moderation in all things, even in language, is a mighty good thing to acquire.

The intelligent have a right over the ignorant; namely, the right of instructing them.—Emerson.

NOTHING FOR NOTHING

During the recent holidays, we read a splendid newspaper editorial in which the writer discanted upon the truism that nothing ever was given, bestowed, granted for nothing. There is always a consideration, a reciprocity, a *quid pro quo;* even if this return may take the form of only gratitude, good will and other imponderable modes of appreciation. Basing his remarks upon this ratiocination, the writer expressed his surprise at the Christmas message announced by the angels (according to St. Luke, Chap. II, Verse 14), "Glory to God in the highest and on earth peace, good will toward men". This, be it remarked, is not in keeping with religious tenets, for, even salvation is not free but must be purchased with faith. On going back to older manuscripts than those upon which the St. James' version of the Bible is based, it was found that the original reading is, "Glory to God in the highest and on earth peace *to men who are of good will". ("Gloria Deo in excelsis et in terra pax hominibus bonæ voluntatis.")* The good will is a condition in consideration of which peace is promised.

The editor need not have searched very far to find this older and more correct reading. He could have found it in any Catholic prayer book, or in the text of any mass. The text of the "Gloria" contains, we believe, the words as they are found in the "Vulgata".

When we look around, we find that the principle of reciprocity holds true all through life. Peace has not been restored because the nations do not entertain good will for each other but rather try to get the best, one of the other. The victors attempt to crush into the dust the vanquished, even to economic ruin and extermination. They do not seem to take heed or to realize that, if they were to succeed, they would themselves be the losers. In our daily life, not only among our business friends in our gainful transactions does the same principle hold true, but even among friends and in family life. The remuneration, the return for benefits received, for support, education, and so forth, take the form of affection, love, helpfulness; in short, of "good will". Any advantages that are bestowed without such a "comeback" are given grudgingly and thereby lose their value.

It is a great gospel, the message of good will, and it becomes even greater if it is realized that it is not, that good will is promised, but the good will is a condition through which peace on earth is earned and merited; that is to say, happiness, success, comfort, and other benefits.

CHILBLAINS

Erythema pernio is one of those "unimportant" minor affections that are apt to drive their victims to distraction and, yet, are seemingly so slight (since there are no alarming symptoms connected with them) as to cause no fear or apprehension. Nevertheless, the unfortunate possessor of chilblains is decidedly handicapped and interfered with in that pursuit of happiness which is guaranteed to him by the Constitution, and its relief should be just as great a matter of concern to the physician as may be that of pruritus, of headache, toothache and other "casual" affections.

Both, internists and dermatologists, agree in pointing out that chilblains is prone to occur in persons whose circulation is poor and constitution feeble. Dermatologists lay greater stress on the poor peripheral circulation, but internists know that robust, vigorous persons are not very likely to be affected by erythema pernio or at least only very temporarily.

It follows, as a matter of course, that the first consideration in treating chilblains, after

the relief of the distressful itching and pain, is close attention to improving the general health and nutrition and taking care of suitable elimination, so as to prevent or remedy autointoxication. Savill suggests the administration of iron and strychnine. Gaucher says that "in lymphatic subjects, tonic treatment is indicated—codliver oil, iron, iodo-tannic syrup". Hazen insists that "the hygiene must be carefully looked after and the attempt made to tone up the circulation. He does not, however, suggest any particular remedy.

We have found nucleinated phosphates very useful and also the triple arsenates (strychnine, quinine, iron) with nuclein solution. The iron might usefully be introduced intramuscularly (iron cacodylate, sodium cacodylate with nuclein solution, or iron citrate, sodium arsenate, strychnine sulphate, with nuclein solution). The intramuscular injections are preferable, for the reason that the effect is far more prompt in being manifest, and time is, of course, a consideration.

In addition to efficient elimination, any existing autointoxication of intestinal origin should be overcome by the administration of such drugs as the sulphocarbolates of calcium and sodium, or echinacoid.

For local treatment, a great many remedies have been recommended. The selection will be guided very largely by the nature of the lesion. If there is a simple erythema with its attending itching, stimulating lotions will be sufficient. If the epidermis has been destroyed and the parts have become ulcerated, applications of hot chlorazene solution have been found effective. Hot foot-baths followed by alcohol rubs or witch-hazel applications may assist in stimulating the peripheral circulation. The foot wear should be comfortable and warm. The shoes should fit well and be roomy enough so as not to pinch the feet or ankles and thus impede the circulation.

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.—Johnson.

A MEDICAL ADVANCE

One of the Philadelphia daily papers, a few weeks ago, printed the following editorial.

"A court decree setting up the Research Institute of Cutaneous Medicine in the place of the Dermatological Research Institute gives legal form and standing to an ideal which does honor to the medical profession in Philadelphia.

"The new institution is made possible by the sale of laboratories, real estate and equipment of a commercial enterprise and the pledging, in addition, of half a million in securities which the laboratories had earned.

"The ideal which bears fruit in the establishment of the new institute is that which forbids physicians to make money from their discoveries in the field of medical research. Three Philadelphia scientists, Dr. Jay F. Schamberg, Dr. John A. Kolmer and Dr. George W. Raiziss, invented a substitute for a German medical preparation during the war which the Government and others bought in huge quantities. Their preparation was a blessing in itself, as leading medical authorities bore testimony. Though none of the three could be rated as a rich man, they refused to touch the fortune piled up by their efforts.

"It goes now, in perpetuity, to the investigation of obscure skin diseases, minor scourges of mankind, which, because they are not acute, have not been conquered.

"This is the sort of devotion to an ideal, expressing itself in deeds rather than words, which has made Philadelphia one of the country's first medical centers."

This editorial refers to the laboratory of the Dermatological Research Institute which was recently purchased by The Abbott Laboratories, of Chicago, for the commercial production and distribution of the arsphenamine preparations. In this manner, the founders and early promoters of the Dermatological Research Institute gain leisure to continue their scientific investigations which they are carrying on for the love of the work and without the desire for gainful exploitation.

The editorial justly appreciates the devotion to an ideal, expressing itself in deeds rather than in words, and which is observed constantly among physicians. There are some men so constituted that they prefer the searching after truth, the discovery of means that shall help the sick and the ailing and who do not care for the commercial possibilities of their results or for their possible financial returns. There is a reward for that sort of thing that can not be expressed in dollars and cents but which yet is preferred by some men. It is not so much the fame attaching to important discoveries or results. It is the joy, not of acquisition but of success. It is the knowledge of having accomplished something for the good of one's fellowmen.

True, the complemental corollary is necessary, too. Results of useful investigations must be produced and marketed. They must be "exploited commercially", if this somewhat objectionable expression be permissible. However, that may be left to those who are temperamentally fit for it; and who shall say that they gain more than those—idealists, disinterested students (whatever you want to call them) who find their greatest reward in mak-

ing possible the production of useful remedies but without demanding or desiring lucre.

It seems somehow that conflict is necessary for the perfection of character. I know that, in navigating our coast today, I feel twice as reliable a pilot for the bad times I had on so many rocks. —Wilfred T. Grenfell.

CARELESS SPEAKING AND WRITING

George Eliot informs us, in "Middlemarch", that Doctor Lydgate "cared not only for 'cases' but for John and Elizabeth, especially Elizabeth". We wonder whether Mrs. Lewes fully realized the extent of the truth that she expressed in this terse sentence. While the layman will tell you that he or his brother or sister "had a severe *case* of such and such a disease", and differentiates between the person having the "case" and the case, or instance, of disease itself, physicians all too frequently speak indiscriminately of cases and of patients; relating, for instance, that the "case" got worse, or died, or improved—which is a shoddy mode of expression.

Here we have just one instance of careless diction in which we indulge altogether too much. Such carelessness is rampant, especially in the matter of technical terms. For instance, the title of a paper appearing in one of the best medical journals published in this country deals with the "vegetative neurologists". Ye gods and little fishes! Does the author mean a neurologist who is vegetative (or vegetating?) or does he mean a neurologist devoting particular attention to diseases of the vegetative nervous system? If he means the latter, why in time doesn't he say so? In papers and also in discussion for medical societies, one frequently hears the expression, tuberculous or (even worse) tubercular specialists. Strangely enough, men who are guilty of such an atrocious misappelation never speak of "syphilitic" or "cancerous" specialists. And, yet, why shouldn't they? If a physician were to limit his practice to treating patients affected with measles, would he be a "measley" specialist?

The workman who does not take care of his tools is not a good workman. Words, expressions, technical terms, are part of our tools. They should be kept in good condition and, above all, they should be correct.

Incidentally, a little matter of form. We often wonder why it is that so many people who, otherwise, write a perfectly legible hand, have accustomed themselves to a signature that the most careful steno or the most experienced bank clerk could not decipher. Surely, in the matter of signature, one should be fully as careful as in the writing of a letter. The idea is, we presume, that illegible signatures are less easily forged. As a matter of fact, bank clerks will tell you that this is not the case at all. A simple legible signature is far more difficult to imitate than is one of those fancy scrawls that nobody can decipher.

During the war, the government services introduced the splendid custom of causing the name of the writer to be typewritten at the bottom of each communication. Above it, the signature is placed. This custom has been adopted by a great many concerns and individuals, including ourselves. Many of our correspondents employ it. Those who do not, and who write their letters with pen and ink, we implore to write legibly and to sign their names clearly, especially if they do not use printed stationery.

While we are on the subject: when writing for publication, it is well to employ simple diction and construction. Involved sentences, that must be read two and three times before the sense is made out, do not impress their message nearly as forcibly as do simple, brief, terse phrases. The padding of the text with "high-faluting", esthetic, ethereal vaporings does not improve or enhance the lesson; it does not make it more impressive. "Let your communication be, yea yea, nay nay. More cometh of evil." Simple, unaffected language is far more impressive than are flowery, hyperbolic expressions.

Besides, simple, terse sentences require exact thought; the more involved, decorative sentences may be employed to express immature or inexact ideas. But, the dispassionate, clear and sharp thinker will easily discover the pretense and will fail to be impressed by the affectation. Inexact writing and inexact speech make one suspect the writer or the speaker of careless thinking and reasoning.

While it is not always feasible to employ the typewriter, though many physicians possess such a useful tool, the typewritten manuscript is to be preferred to the pen-written one.

[*Concluded on page 139.*]

Exchange your 1918 War Savings Stamps for 4% Treasury Saving Certificates at Your Bank or Post-Office, Now.

Leading Articles

Revised Bedside Directions for the Treatment of the Acute Pneumococcus Pneumonias

With a Prefatory Comment on the "Definite" and Other Plans of Treatment

By SOLOMON SOLIS COHEN, M.D., Philadelphia, Pennsylvania

EDITORIAL COMMENT.—We are happy to present, in the following, a revised version of Professor Solomon Solis Cohen's bedside instructions for the treatment of pneumonia patients, which originally appeared in this journal for February, 1917, p. 101. A comparison of the two articles will show no essential differences in treatment, since the principle underlying the therapeutic measures remain the same. More recent investigations, however, and further clinical experiences have made it possible for Doctor Cohen to elaborate a method of treatment that is not only almost fool-proof, as he suggests, but also gives the most favorable results, we believe, that have been observed under any method of treatment. His mortality rates are remarkably low. This, of course, depends upon the care, the never-failing watchful acting and the deliberate and courageous employment of those drugs that have been found useful. The method shows the incorrectness of those statements, that we occasionally hear, to the effect that no treatment of any kind can alter the course of acute lobar pneumonia.

Prefatory Comment

UNDER the *laissez faire* methods of therapeutic nihilism, the acute pneumonias have, for more than a quarter of a century, usurped the malign eminence of tuberculosis and typhoid fever at the head of mortality statistics in the temperate zone.

Immunology has indeed given increasing promise of betterment within recent years, but its methods are as yet imperfect and in course of development. They cannot, at present, be used in the best way, outside of hospitals. Chemotherapy of some kind—for, all administration of drugs is chemotherapy—continues to be the main dependence of the physician who is unwilling to trust to chance in the grave situation presented, actually or potentially, by every pneumonia patient. The only question is, shall our chemotherapy be a vague, uncertain, shifting maze of temporary expedients, or shall it be precise, clear, definite?

Five years ago, the writer published, in THE AMERICAN JOURNAL OF CLINICAL MEDICINE (February, 1917), a summary of "Bedside Directions for the treatment of Acute Lobar Pneumonia" embodying a brief outline of the chemotherapeutic and other measures that his experience of thirty years had "tried and proved good." He termed them, in the aggregate, "The Definite Plan"—because this plan employs *definite agents* for *definite purposes*, and upon *definite indications*. (See *N. Y. Med. Jour.*, 1916, Jan. 3 and 10, and *Jour. Amer. Med. Ass'n.*, Dec. 6, 1919, p. 1741.)

Since then, enlarged laboratory studies (see *Penna. Med. Jour.* May, 1919, vol. xxii, page 506) have confirmed the conclusions reached by clinical observation; and the results given by the definite treatment in two severe epidemics—especially in that of 1918, with all its complications—have increased the author's confidence therein.

It is not the final word on the subject, nor is it put forward as even the penultimate syllable. Advances in immunologic methods may yet give us available specifics, potent against all types of pneumococci, against Friedländer's bacillus, against the various strains of streptococci and other organisms

that we have to combat in the group of maladies we term the pneumonias. Advances in chemotherapy may give us better molecules developed from the "quinine lead" against the pneumococcus, a molecule developed perhaps from the "antimony lead" perhaps from the "phenol lead" against Friedländer's bacillus; and the sorely needed chemical specific—perhaps an organic mercurial or a dye—against streptococcus hemolyticus. As yet, however, a clearly specific serum is available only in cases of Type-I pneumococcus infection; and while various bacterins, sero-bacterins and other immunologic products—among which Huntoon's solution of antibodies seems worthy of special mention—have been employed with marked benefit, the gross results of immunology are, at their best, no better than the best of those observed under the definite plan; while its methods are as yet less readily carried out in private practice, and its remedies frequently difficult to obtain.

It is probable, as the author long ago pointed out, that the very best results are to be looked for from a *combination of immunotherapy and chemotherapy;* both improved somewhat from present methods, but, insofar as pneumococcus infections are concerned, with Huntoon's antibodies and the cinchona derivatives as leads. From the latter, however, optochin is to be excluded, as being too toxic for systemic administration, notwithstanding the fact that it is far and away the best pneumococcus destroyer we have for *local* application.

Moreover, while our general plan (strategy) may be predetermined and fairly uniform, our particular methods (tactics) must always be flexible; always susceptible, not only to improvement by the advances in science, but also to modifications necessitated by the conditions presented, at the given time, by the individual patient.

Premising, therefore, that the measures here to be outlined are to be supplemented and modified by whatever useful measures and whatever knowledge the progress of science or the observation of the individual physician may give, it has seemed advisable at this time to offer again for the consideration of practising physicians, in the rural as well as in the urban districts, a brief presentation of the "Definite Plan" in the form of a revision of the "Bedside Directions," embodying certain tactical modifications that more recent experience has shown to be of service. Especial attention is to be called to the great superiority of quinine dihydrobromide over the quinine compounds formerly used. This is based upon the experimental observations referred to.

While stated in terms of hospital work, it is a simple matter to adapt to the home the measures described.

It should not be any more difficult in a farmhouse or village home for a member of the patient's family to keep a graphic chart of temperature, pulse, respiration, and even blood pressure, than for a trained nurse to do so in a city mansion. Its keeping will be found to simplify—not complicate—the work of the person in charge of the sickroom, and it will very greatly lighten the work of the physician. Any good form of chart will answer. The author's "complete clinical chart" (from which, by the bye, he derives no royalty) is sold very cheaply by the Hospital Standard Publishing Company of Baltimore and, while believed to be a good chart in all sorts of cases, it was designed especially for use in guiding the definite treatment of pneumonia. (Fig. 1). It shows at a glance the four cardinal points by which the definite indications are given—namely (1) *temperature;* (2), *blood pressure;* (3), *pulse,* and (4), *respiration,* and especially the relations *between pulse rate and systolic pressure,* and between *respiration rate and diastolic pressure,* which are so highly important. (Fig, 2). It likewise allows one to see instantly just what medicine has been given; when; how much; with what results. [See pp. 95 and 96]

In the definite treatment of the pneumonias, *time* is, as the lawyers say, *of the essence of the contract.* If the treatment be instituted within the first 24 hours of recognizable disease—and boldly carried out—the mortality in patients under fifty and not debilitated by previous or existing disease (especially renal affections) is so small that one hesitates to state it, lest he be considered inaccurate or reckless—a candidate, in short, for the Ananias Club. Even in older patients, when treatment is begun early, the mortality remains very low. In young and robust patients, delays are less serious. Taken all in all, good cases, bad ones, early ones and late ones, the mortality (if we exclude hospitals wherein the victims of destitution, neglect and debauchery form the bulk of the patients—or rather, if we exclude such cases) should not exceed 16 percent. Under favorable conditions, it should not exceed 8 percent. Under the best conditions, it should not exceed 5 percent.

While *quinine* is the foundation of the treatment, it is not the sole feature—except in cases seen very early. In these, a single, large dose—by mouth, muscle, or vein, as most practicable, but *preferably by vein*—seems to cut short the

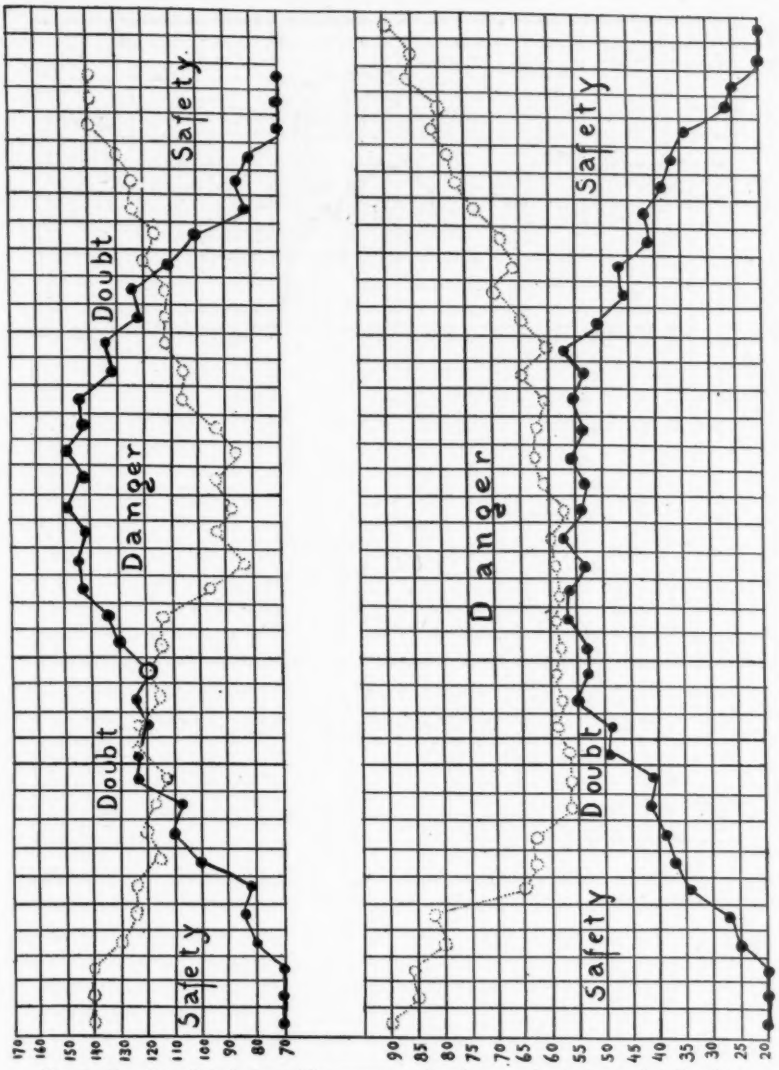


Fig. 1—Complete clinical chart: The curves are based upon an actual case, but the chart as given is partly diagrammatic in order to bring out the various points mentioned; that is to say, all the therapeutic measures recorded for illustration were not employed in this particular case. The curves of systolic and diastolic blood pressure are best recorded in red, with open circles joined by dotted line for one, and solid circles or dots, joined by solid or broken line, for the other. In the illustration, however, dotted black lines with open circles are used for both pressure curves, for typographical reasons. Letters may be used instead of asterisk and other symbols to indicate medication. P-D-Q answer very well. The P. goes in the pulse space; the D. in the respiration space; the Q. in the temperature space.

toxemia, while not affecting the structural changes in the lung. The latter run their regular course—or, sometimes, a delayed course—to resolution. But, the patient does not feel ill. Pulse, temperature, respiration become and remain normal. There is no cough, no discomfort. No critical phenomena are observed.

While, as stated, the morbid process in the lung persists, it does not, however, extend; and that is a gain that can not be too highly estimated. Frequently, under expectant treatment, one area of infection clears up, and the patient seems on the high road to recovery—when another patch of consolidation appears,

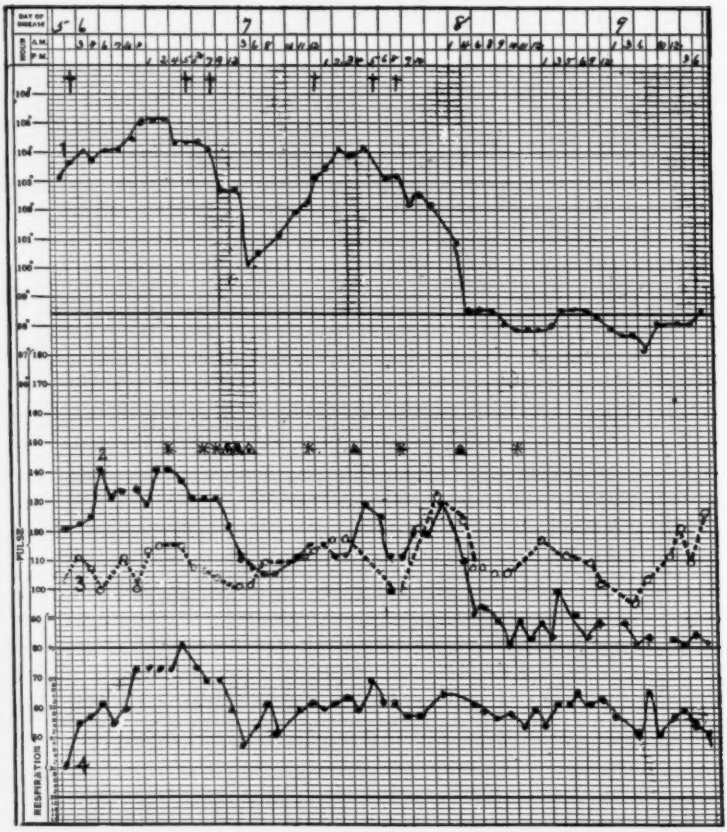


Fig. 2—Diagram showing Gibson's *(systolic)* pressure-pulse ratio and its significance (upper chart); and author's *(diastolic)* pressure-respiration ratio and its significance (lower chart). The Gibson phenomenon guides the use of *Pituitrin*. The author's phenomenon guides the use of *Digitalis*.

new poisons are generated and distributed—the patient becomes much worse, and may die. By the *early and bold use of quinine*, this mishap may be prevented. When the use of quinine is delayed or the drug is used in what S. D. Gross called "piddling doses"—the good result described is, of course, not to be expected.

When the patient is not seen sufficiently early to depend upon the single dose of quinine, *digitalis* and *posterior-pituitary solution* also come into play.

The latter sustains systolic blood pressure. The former sustains the heart and the diastolic pressure.

Let attention be called to three facts:

1.—*Pneumococcus infection* gives rise to *poisons*—some of bacterial origin, some of tissue origin—that *depress greatly the heart and vasomotor system.*

2.—*Quinine given in large doses* to persons in health or to sick persons *not the subjects of pneumococcus* or *malarial infection* and concomitant poisoning, depresses to slight extent the heart and the vasomotor system.

3.—*Quinine given in large doses to persons who are depressed by the pneumococcus toxins and the pneumonia tissue poisons will not depress;* it overcomes the poisons of disease and is itself overcome in so doing. In other words, *one poison neutralizes the other;* the depression of disease is ameliorated; the potential depression of the drug is not manifested. Through what mechanism this result is brought about, has not yet been learned—but the fact is evident. One proof of it is the *absence of all symptoms of cinchonism* even in persons having a "quinine idiosyncrasy".

This applies, let it be repeated, to *pneumococcus infections only*—whether lobar or lobular—and not to infections with streptococci or

with Friedländer's bacillus. In mixed infections, it still applies to the pneumococcus and tissue poisons, but not to the rest of the morbid complexus.

As to *possible untoward effects of quinine* other than cardiovascular, the writer has seen *temporary deafness* when the doses were too large or too long continued; or in desperate cases when extraordinary dosage was necessary. He has never seen permanent deafness produced by quinine in pneumococcus infections.

He has never seen even *temporary amblyopia,* but some instances have been reported to him. A case of permanent blindness attributed to the use of quinine in pneumonia, proved upon investigation to have occurred in a case of lobular pneumonia due to Friedländer's bacillus; it had followed persistence in the use of the drug for seven days, despite the absence of any effect on temperature. The patient recovered, and possibly his life was saved at the expense of his sight. It is to be remembered, too, that vision does not persist in the grave. Quinine, however, is not specifically urged in "Friedländer's cases." It may be helpful; but further investigation is needed to give it a definite status in this respect.

Temperature has been mentioned. It should be made clear that *quinine is not given as an antipyretic;* the lowering of temperature is *incidental to its antitoxic action.* Thus, the degree and completeness of the antitoxic effect is conveniently *measured* by the fall of temperature. It is an index.

In his earlier publications, the writer fixed 102° F. as the point to be reached and maintained; later, he reduced this to 100° F. He now thinks it safe to bring the temperature *down to normal* as early as possible.

So long as there is *no tinnitus* and *no visual disturbance,* quinine may safely be pushed while the temperature remains above normal; provided it has not, after three doses, failed to produce any effect upon temperature at all. Caution, however, is wise. Ringing in the ears commonly occurs before the eye is damaged by quinine. Hence, this should be a signal to withdraw the drug. It would indicate that an *excess above the amount needed to neutralize the pneumonia poisons* has been administered. It is, however, rarely met with when the writer's routine is followed.

Should the quinine *not affect the temperature* after three sufficient doses have been given, it may be inferred, either (1) that pneumococcus infection is absent, (2) that some other than pneumococcus infection is predominant, or (3) that we are dealing with a certain highly virulent strain, either of Type-III or of Group IV. (Typing, of course, may confirm or fail to confirm the inferences.)

Under the conditions mentioned, the drug may be withdrawn, or the possibility of recovery being attended with blindness, remote though it be, should be realized. As a rule, neither blindness nor recovery occurs in such instances.

Digitalis is given from the first in small doses (the equivalent of 5 minims of a good tincture, thrice daily) merely to sensitize the heart, so that it may respond quickly to larger doses, should an emergency arise. Meanwhile, it works no harm and possibly does some slight good. This dose, however, is much too small when positive digitalis effects are required. The indication for these is a fall of *diastolic blood pressure* to or below 60 mm. Hg. or an approach of diastolic blood pressure and respiration frequency curves, measured on the same vertical, to within 10 points of one another. Full doses by intramuscular or intravenous infection, are then needed.

Posterior pituitary preparation is indicated:

1.—To *raise* the curve of *systolic blood pressure* in mm. Hg. to a point *above,* and if possible 10 points above, the curve of *pulse frequency.* It is given by intramuscular injection about every third hour. Commonly, 1 Cc. of a good preparation is sufficient.

2.—To *overcome gastric or intestinal distention.* It is then given hourly and, if need be, supplemented by eserine. Lavage of the stomach and lavage of the colon may also be needful. Turpentine by mouth, turpentine stupes, asafetida and alum enemas, are at times useful aids.

These three agents, then, *Pituitary, Digitalis* and *Quinine,* are all required in the definite (or as one of the writer's assistants terms it, the "P. D. Q.-recovery") method of treatment of the pneumococcus pneumonias.

In other respects, the method has no special peculiarities. Integral parts thereof are: *fresh air*—cold or warm as best suited to the individual case; *water* freely; some *alkaline diuretic,* preferably an artificial mineral water made up with sodium *bicarbonate,* sodium or ammonium *citrate,* sodium *phosphate* and sodium or ammonium *chloride;** a suitable *diet;* careful *nursing* in general. When needed for special indications, *oxygen, blood-letting, strychnine, musk, atropine, ammonium salts, creosote compounds*—very rarely an *opiate* or a *bromide,*

*Sodium chloride solution by *hypodermoclysis* or *proctoclysis* is sometimes needed, and always useful.

may be added for sedation.

Whisky (or other palatable form of alcohol) is to be given freely when indicated. None may be called for in cases seen early. Sometimes, especially in the weak, in the aged, and when there is difficulty in feeding, a pint or more daily may be needed.

Revised Bedside Directions

Preliminaries

PULSE, temperature and *respiration* are recorded, together with the *blood pressure,* both systolic and diastolic. Due arrangements are to be made for proper supply of *fresh air.* The patient receives a preliminary *cleansing sponge* or bath followed by a hot-alcohol rub, and his chest is either wrapped up in a *lamb's-wool* or *cotton-batting* jacket—this sometimes being preceded by a *mild mustard poultice*—or a hot flaxseed poultice is applied.[1] A preliminary purgative dose of castor-oil is given; or, if preferred, 2 to 5 grains of calomel, followed by a saline. A suitable *quinine* compound is then to be administered in large dose, preferably by vein or muscle.

Intramuscular Injections of Quinine

Quinine and urea hydrochloride, and quinine chlorhydrosulphate are the best salts for intramuscular use. These, or the dihydrochloride, hydrobromide, or, better, the *dihydrobromide,* can be injected intravenously.

According to the severity of the case and especially the height of the temperature, the first injection of the quinine compound, is from 10 to 25 grains (0.6 to 1.5 Gram). The second injection, made three hours later, should ordinarily not be more than 15 grains (1 Gram) nor should any injection be given if the temperature has by this time fallen to 100° F. or less. The signal for renewing the injection is, failure of temperature to continue its fall, or a rise of temperature, later, to or above 100° F. To put it differently: the injections (10 to 20 grains intramuscularly) are *repeated every third or fourth hour until the temperature falls to 100° F. or less, and then are intermitted until the temperature rises again to 100° F. or more, and then repeated as indicated.* If, however, the desired fall has not been reached by the time that four or at most five injections (i. e. 60 to 90 grains of the quinine salt) have been injected, the interval is increased to six hours or even more according to circumstances.

Any sign of *untoward cinchonism* calls for caution in the further use of the drug, or even for the discontinuance of the quinine injections. Such sign would be dullness of hearing, ringing in the ears, dimness of vision, or persistent sweating. Untoward cinchonism, however, is rare. While it is always to be watched for, it is not ordinarily to be apprehended.

Certain *precautions* are necessary in *intramuscular* injections, especially when the quinine and urea salt is used. The solution of the latter (60 to 30 percent) is best made extemporaneously in boiling water, so that a syringeful (20 to 60 minims, say, or 2 to 3 Cc.) contains the dose to be given—10 to 25 grains (0.6 to 1.6 Gram). Commercial ampules of sterile 50-percent stock solution may be used if necessary. It is convenient to have ready, in the ward, papers or capsules containing 10 and 15 grains (0.6 and 1 Gram), respectively—the contents to be dissolved in a syringeful of boiling water and so used. Antiseptic routine must be followed strictly.

Quinine dihydrobromide dissolves in 8 parts of water. The chlorhydrosulphate was used by Aufrecht and Penzold and by F. P. Henry. Like the urea compound, it is soluble in 1 part of water. The author has seen neither slough nor abscess from the more soluble compounds, in any instance in which he was sure that they had been carefully used.

The *skin* of the site selected for injection (posterior or exterior aspect of arm, thigh, shoulder, *avoiding the regions of nerve-trunks*), is painted with tincture of iodine; the needle is plunged deeply through the iodized skin into the muscle, and thoroughly emptied. In withdrawing the needle, care is taken that a drop of solution does not fall on the skin. The puncture may be sealed with collodion. Necrosis and abscess are thus avoided.

Intravenous Injection of Quinine

Intravenous injection is practicable and efficacious. From 5 or 10 to 150 mils (Cc.) or more, of salt solution (0.85 percent of sodium chloride) at 104° to 110° F. may be used with 0.5 to 1 Gm. of the quinine salt; the exact quantity varying with the solubility and irritant or acid properties of the latter. The less the solubility or the greater the acidity, the more dilute must the solution be. The sterile solution should be run into the vein slowly, with all needful precautions. *Quinine dihydro-*

[1] When practicable, the following routine is useful: (1) *Counterirritate* with 50-percent mustard poultice mitigated with egg-white and glycerin, 60 to 90 minutes. (2) *Cleanse* with warm alcohol. (3) *Anoint* with vaseline. (4) *Wrap up,* 1 hour, in lambs' wool. (5) Apply *jacket-poultice* of hot flaxseed paste, *well made,* between two layers of cheesecloth. This should keep hot 4 hours. *Over the poultice,* apply *oiled silk* or *waxed paper* to help retention of heat. *During the day,* apply a fresh poultice every four hours. *At night, to avoid disturbance of sleep,* substitute the lambs' wool.

bromide dissolves in 8 parts of water. Sterilization must be accomplished by the low-temperature fractional method extending over three days. Hence, it is well to have ampules containing 1 Gram in sterile solution (10 percent) ready for use and dilute this further (to 1 percent) when using.

Quinine By Mouth

When it is impracticable to administer the quinine solution by vein or muscle, administration *per os* may be substituted; but it is far less effective. The doses should ordinarily be increased by at least 50 percent and be administered every two or three hours in a routine way, irrespective of temperature—unless this becomes and remains normal—but with care to avoid cinchonism.

The exact quantity to be given will depend upon the severity of the symptoms. Commonly the first dose is 25 grains (1.6 Gram). It may be more.

Administration by mouth may be all that is needed after initial treatment by intravenous on intramuscular injection. This, let it be repeated, depends on the *effect* of the initial dose, and this in turn depends on the *promptitude* of its use.

The second and third doses are commonly 15 grains (1 Gram) each. Doses of 5 or 10 grains (0.3 to 0.6 Gm.), every two to four hours may, however, in favorable cases, be sufficient after a full initial dose by vein, by muscle or by mouth. But in any case, and however administered, enough must be given to induce *quickly* and maintain *constantly* a full quinine effect. Failure comes, most frequently, from insufficient dosage.

The best quinine salt for use by mouth is the *dihydrobromide,* which in experimental observations by Dr. J. A. Kolmer and the author ("Transactions of the Association of American Physicians" for 1916) showed certain exceptional qualities. It destroyed pneumococci in a dilution of 1:200,000 in salt solution, and 1:400,000 in serum. Optochin (ethylhydrocupreine hydrochloride) is more effective in salt solution, killing the pneumococci in a dilution of 1:2,000,000; but in serum its activity is reduced by 80 percent, making the two agents equal. And, optochin is too toxic to be used systematically in effective dose in man. The quinine dihydrobromide, therefore, is, for the present, our *best pneumococcicide for use internally.*

When the dihydrobromide can not be obtained, the *(mono) hydrobromide,* which stands next in efficacy, may be used. If neither of the bromine compounds should be available, any quinine salt procurable will be of service—if the dose be made large enough.

Duration of Treatment

The use of *quinine*—especially by injection—is not commonly kept up for more than seventy-two hours; but there is no *time limit.* One judges by effects produced. Sometimes it is needed for twenty-four hours only. *Digitalis* and the *pituitary principle* are given so long as the pressure-pulse and pressure-respiration ratios call for them. All of this, however, is a question of judgment in the individual instance. Tincture of ferric chloride or Basham's mixture, with or without strychnine, are to be given when the quinine is withdrawn.

Total Quantity of Quinine.—In many cases, a single large dose is sufficient. In others, ten or more may be required. Commonly, three or four good-sized injections will suffice. The author has used as little as 25 grains; as much as 250 grains. When quinine is given by mouth only, a larger dose and a larger number of doses are needed than when treatment is initiated or continued by intravenous or intramuscular injection; hence, a larger total quantity. The drug must be used *promptly;* and *enough, but no more,* is to be given. The *temperature index* is the guide. It should be brought to normal or thereabouts as quickly as possible, and kept below 100° F. This is a more pronounced effect than was at first advocated. The first few doses must be large; the latter ones may be smaller.

Purgatives and Enemas

The preliminary dose of calomel is to be followed by a saline, as magnesium sulphate. After this, a daily laxative saline enema is to be given; or, if circumstances render it more desirable, a suitable saline aperient may be administered regularly.

Pressor Agents

Cocaine hydrochloride (1-2 grain) or *a liquid posterior-pituitary preparation* — commercial ampule of 1 mil (Cc.)—should be injected into a muscle (or given by mouth in double dose) with the first dose of quinine. Administration *per os* is far less effective than the injection.

After that, the relation between pulse frequency and systolic blood pressure governs repetition of the dose. *It is to be repeated every third hour so long as, and whenever, the pulse frequency, in beats per minute, exceeds the systolic pressure in millimeters of mercury* (Gibson pulse and pressure ratio); or whenever, irrespective of pulse frequency, there is *a persistent tendency for systolic pressure to sink to or below 90 or 100 mm. Hg.* If third-hourly administration is ineffective, the interval

may be shortened; or, cocaine and pituitrin may be alternated every second hour, or even every third hour. In exceptional cases, it is well to give camphorated oil (20 to 30 minims of a 20-percent, sterile solution) along with the cocaine and pituitary liquid—one or the other every hour; that is to say, each of them every third hour.

For prompt stimulation of the heart, in an emergency, nothing equals the injection of a good tincture of musk, 10 to 20 minims. A good tincture of musk, if obtainable, is better than camphor. Dose, 10 to 20 or 30 minims by hypodermic injection. It is specially applicable to cardiac emergencies owing to its rapid diffusion independent of circulatory activity.

Solution of *epinephrin hydrochloride* (adrenalin) 1:1000 (1 mil) may be injected occasionally in place of pituitrin. It is inert by the mouth. When there is a tendency to tympanites, the pituitary preparation should be given hourly, for at least three hours in succession; after which, *if necessary*, it may be alternated at 2-hour intervals, with a few doses of *eserine salicylate* (or other eserine salt) (1-60 grain; 1 mgm.). Here, too, the frequency, dose, and total number of injections must be a question of judgment, according to effect in any given case.

While all *unnecessary examination* of patients is to be avoided, the *left lower axillary region should be percussed daily, or even twice daily, as a routine.* If tympany is found beyond the midaxillary line, it indicates paralytic distension of the stomach. The stomach should be washed out at once with hot saline solution or alkaline solution, and the hourly pituitary injections instituted.

If there is occasion for *hypodermoclysis* or *angioclysis*, the pituitary extract or adrenalin (or quinine) may be added to the saline solution.

When the sphygmomanometer (blood-pressure measuring instrument) is not used, the *force of the pulse* and its *volume*, together with the *sounds of the heart* (as to both, *force* and *clarity*) must be the guide in administration of pressor agents. *Overstimulation is to be avoided*, but needed stimulation and support must be given. In the presence of *pulmonary edema, pituitrin and adrenalin should be withdrawn;* but cocaine and caffeine can be used in conjunction with atropine.

Cardiants

While *aconite* and *veratrum viride* may be useful at the very inception of an attack of lobar pneumonia, *they can only do harm after crepitus has disappeared and bronchial breathing supervenes. Digitalis* is then to be used, as necessary. The physician may use any good preparation he prefers and understands.

At first, a dose equal to 5 minims of the U.S.P. tincture is to be given *by mouth* every 4 hours or thrice daily, as best fits the nursing schedule. But, when the *definite indication* for digitalis appears, hypodermic or intramuscular injections should be instituted, if possible.

The dose must be large; at least, it should equal 20 minims of the U. S. P. tincture and may be much greater, according to the patient's reaction. The *interval* between injections commonly is four hours. If repeated injections are not feasible, or if they seem undesirable, the digitalis may be given by mouth every two hours to keep up the effect after the first injection. *Very, very much larger doses* may be given in individual cases, with due regard, of course, to intervals. The larger the quantity, the longer the interval must be. Necessarily, *the effects must be watched* and the dose and interval increased or diminished, according to the result in a given instance.

The *definite indication* for digitalis is, *wobbling of the pulse* or *a fall of diastolic blood pressure to 60 mm. Hg. or less;* especially if that brings the pressure to *within 10 points of the respiration rate* (in excursions per minute; *—author's pressure and respiration ratio*). *Digitalis results are slow to appear, but they are much more prompt and positive when quinine is given than in its absence.* Here, also, good judgment is needed, both in giving and in withdrawing or intermitting the drug.

(Experienced physicians may be able to estimate the circulatory condition by the palpating fingers—but "feeling the pulse" is fast becoming one of the lost arts; and even the most skillful will sometimes fail to judge pressure correctly. Hence, directions are given in terms of instrumental measurement. In terms of the day before pressure-measuring instruments were used, the *diastolic pressure* is the "arterial tension" *between beats.* It is indicative of the tone of the relaxed heart and of the great vessels, as well as that of the peripheral artery. The *systolic pressure* is the *"force of the beat").*

Venesection, venoaspiration, bloodletting or *wet cupping* may be called for when there are signs of *dilatation of the right heart;* and especially if *pulmonary edema* be present or imminent.

In case of actual or threatened edema, *atropine* should be used freely and boldly. At least 1/50 grain, and often 1/25 grain, should be injected under the skin, and *repeated as*

needed—every 30 to 90 minutes, if need be. Such injections may be kept up under proper supervision for 10 or 12 hours continuously if the effect is not maintained otherwise.

Water, Chlorides, Alkaline Salts

A sufficient intake of chlorides and of alkaline salts should be provided for.

Hypodermoclysis of 250 to 1,000 mils of saline solution or of a modified saline solution (*sodium chloride*) 50 grains (3.3 Grams); *crystallized calcium chloride* C. P., 3 grains (0.2 Gram); *ammonium chloride*, 7½ grains (0.5 Gram); dissolved in 1 pint (500 mils) of sterile water may be given, according to F. P. Henry's plan as a routine, daily or even twice daily; or may be reserved, as in the writer's practice, for specially toxic individuals or those who will not or cannot drink sufficient of the alkaline-saline beverage he prescribes or of Quimby's chloride mixture. Or the *Murphy drip* (proctoclysis, 30 drops or less to the minute) may be used.

The writer's *alkaline-saline beverage* is made by dissolving in a glass of hot or cold water (as most agreeable to the patient) *sodium phosphate*, 5 grains; *sodium chloride*, 5 to 10 grains; *sodium bicarbonate*, 10 grains. A glassful, more or less, of this is given hourly if possible; or at least every two hours. If too salty or too soda-like, the proportions may be altered or the quantities reduced. Lemon-juice may be added, to cause effervescence and improve the taste. This, of course, leads to the formation of *sodium citrate*. The latter salt or ammonium citrate may be used originally, if preferred. Sugar also may be used, occasionally. When alcohol is to be given, whisky or brandy may be added to the saline beverages.

Quimby's chloride mixture consists of about 5 grains of *ammonium chloride*, 10 grains of *sodium chloride*, and 1 grain of *calcium chloride*, in a glassful of water. Doctor Quimby gives it hourly. The proportions and quantities may be varied, if necessary. This may be alternated with the alkaline-saline beverage, if found more palatable.

The general idea is: (1) to give *plenty of water* and thus keep up the urinary output to at least 2,000 mils (70 ounces) daily; (2) to give *chlorides in sufficient quantity*—at least 60 grains (4 Grams) each twenty-four hours; and (3) to *keep the urine alkaline or neutral*. Accordingly, the nurse is instructed to test the urine with litmus paper each time it is passed, and to increase the ammonium salt or the sodium bicarbonate (or citrate) whenever the blue paper turns distinctly red.

Food

Liquid or semisolid nutriment is to be preferred—perhaps predigested; thus, pancreatized milk, peptonized milk-gruel, (or, when patients cannot prepare these, the proprietary foods of like character), raw or soft-boiled eggs, junket, custard, soups, barley-broth, beef-juice, peptonized beef, albumen-water, and, if necessary, whisky or brandy. In the case of alcoholic subjects, alcohol in moderate quantity is needed. They may be reformed later. They should also receive, as a stimulating eliminant, 1 ounce hourly of *solution of ammonium acetate*, and the other treatment be modified accordingly. Nonalcoholic patients may be benefited by alcohol in the later stages (fourth to ninth day) should the symptoms in general seem to call for it; and especially when fever continues high despite the quinine. Here, also, general rules are impossible. It is a question of *good judgment at each visit*. Champagne may be tolerated when milk or other bland food is not, and may even help to control vomiting. The bold use of alcohol as food and tissue-sparer has, in the writer's hands, saved many desperate-seeming cases. He has not hesitated, because of the development of a mild alcoholic confusion, to push the whisky when it has seemed necessary.

Fresh Air

A roof or porch is preferable to a room; a big, high-ceilinged room to a small, low-ceilinged one; many windows to few openings. Windows should be kept open top and bottom, the patient being screened from draughts. There should be plenty of bedcovers. The mattress should be covered, both top and bottom, with paper or a rubber sheet or mackintosh, to exclude the cold air that, below as well as above, easily penetrates the ordinary mattress. Over the covered mattress, a blanket should be placed and then a sheet. Hot bottles and the like may be used to keep the air beneath the bedcoverings warm. For robust young people, cold air is desirable outside the covers. Old folks and delicate children *need warm air* (65° to 80° F.) as well as fresh air. So do alcoholics and the debilitated. *Fresh air need not be cold* and *warm air need not be stale*, if a little ingenuity be used to make the best of conditions.

Oxygen—warmed, if necessary—may be reserved for emergencies. If used, it must not be expended economically. Continuous or almost continuous inhalation for twenty-four hours to forty-eight hours is necessary, if its use is called for at all. Oxygen prepared extemporaneously is best. An apparatus which

utilizes sodium peroxide "cartridges" is easily managed, and an attendant can be instructed in its use without much trouble. It ensures a continuous supply, especially when one is at a distance from a well-equipped drug store. Meltzer's "pharyngeal insufflator" should be used as terminal—or at least some mouthpiece that cannot be broken or occluded by the patient's teeth or tongue. The use of face-mask or nose-piece is not to be commended and is commonly futile.

Bloodletting, Nursing

Bloodletting may be indicated by extreme *dilation of the right heart* or the occurrence of *pulmonary edema*. Wet cups or venesection may be employed according to circumstances.

Nursing must be continuous, careful, and intelligent. All the details that come under this head—system, cleanliness, disinfection, quiet, rest, avoidance of unnecessary disturbance, must be scrupulously observed. It is best to institute a 2 to 4 hour schedule including medicine, food, and all other services—so that the patient always has peace for two hours; save in grave emergencies.

Delayed Convalescence. Bacterins

If resolution is proceeding normally, as shown by the crepitus redux, and the like, a simple tonic of iron or of iron and strychnine or of iron, strychnine, and quinine may be all that is needed. Basham's Mixture is suitable.

If, however, notwithstanding the subsidence of temperature and the restoration of normal respiration rate, resolution does not set in, the administration of a *bacterin* is desirable. This should preferably be made of a culture obtained from the sputum or blood of the patient (socalled autogenous vaccine). The initial dose is 25 or 50 millions to 100 millions of killed pneumococci, and this is to be increased at successive doses by 25 millions, 50 millions, 100 millions or more, according to the reaction of the patient, as shown by temperature, by leukocytosis (and especially phagocytosis), as well as by focal symptoms. Commonly, three doses may be given in daily succession before reaction is evident. Thereupon one waits from three to seven days, until the reaction subsides, and repeats the injection, but in increased dose. Both, time and quantity vary considerably with the individual patient, so that no uniform rule can be laid down.

Good results may be obtained, not only from the ordinary method of subcutaneous or intramuscular injection, but also from oral administration of the bacterin (vaccine) in about 1 ounce of normal saline solution. The preferable *time* for administration of killed bacteria by the mouth is before breakfast, as the dose is absorbed more readily from the empty stomach. Normal horse serum sometimes is a better vehicle than is salt-water; or a teaspoonful of (expressed) beef-juice in 2 ounces of salt solution may be used instead.

When not only resolution is delayed, but fever and disturbed respiration persist unduly, the bacterin-treatment is also of considerable service.

Disinfection of the upper respiratory tract is useful and sometimes necessary. It may be done in various ways: thus for example, by applications of *argyrol solution* (20-25 percent) or of *phenol-iodine (phenol, iodine,* each 3 grains; *potassium iodide,* 5 grains; *menthol,* 1 grain; *glycerin,* 1 fluid ounce) to the nasal mucosa; by spraying the nose and throat with *aromatic and phenolated oily solutions;* by *continuous inhalation of creosote, eucalyptol* and *bromoform* from a Yeo (perforated zinc) respirator; by *gargling* with *sodiumperborate solution* or *succinic-dioxide solution;* by painting the tonsils and pharynx and perhaps spraying the larynx and trachea with a 1 to 2 percent solution of *quinine and urea hydrochloride* or of other quinine salt or even a 1:10,000 solution of *optochin,* and by other like expedients. The particular measure or measures to be employed will depend on practicability and the general condition of the patient. *Unnecessary disturbance is to be avoided.*

Exchange your 1918 War Savings Stamps for 4% Treasury Savings Certificates at Your Bank or Post-Office, Now.

On Lumbar Arthritis

By PROFESSOR ANDRÉ LÉRI, Paris, France

Member of the Faculty of Medicine of Paris; Physician to Cochin Hospital, Paris

BY lumbar arthritis is meant, the localization of chronic vertebral rheumatism in the lumbar vertebræ.

This affection was observed with great frequency during the war; for, in the neurologic service of one army, we saw not less than forty cases in the course of a few months, and we have treated as many as seventeen cases simultaneously, out of a total of two hundred patients. The affection produces symptoms very different from those recognized hitherto as pertaining to chronic vertebral rheumatism.

Professor André Léri.

The patients whom we have had under observation are most frequently young; possibly because we have encountered them particularly among soldiers; most of them are between twenty and forty years of age. They enter the hospital on account of lumbago or sciatica which may be bilateral or changing about, although it is usually unilateral. They complain of sharp pains, which are continuous and paroxysmal, in the lumbosacral region, often also in the buttocks and the thighs, sometimes even limited to the calves.

The posture of the patients is very variable. Only rarely do they stand almost erect; almost always they are forced to bend the body forward and hold the knees more or less flexed, in such a fashion, that the trunk forms an angle of 170 to 140 degrees and even less with the thighs. Laterally, they may or may not be bent more or less markedly towards the right or left. However, there is no angular deviation, and the posture recalls that of scoliosis following upon sciatica. It may be remarked that, in case of sciatic pain, the trunk sometimes is bent toward the painful side; the scoliosis is "homologous," this being unusual in cases of ordinary common sciatica. At times, the scoliosis alternates.

When the patient stands up, one observes sometimes a slight degree of puffiness in the lumbar region but without redness or heat, without an actual edema. The bony protuberances are merely obliterated. More frequently, there is seen an obliteration of the physiological lumbar lordosis. Sometimes, this lordosis is replaced by a certain degree of kyphosis and the line of the spinous apophyses stands out at the level of the second, third or fourth lumbar vertebræ. Sometimes the twelfth dorsal is included.

When the patient bends forward as much as possible, it will be found that this motion is much lessened; the knees bend very promptly and the angle formed by the trunk with the thighs only rarely is a right angle and even less often more than that.

In this same position, one finds also that the projection of the line of lumbar spines is accentuated and becomes quite striking.

Characteristic Line of Spinous Processes

The projection of the lumbar spinous apophyses varies greatly according to the patients. However, in normal persons, one does not see so prominent a spinous line which projects in so limited a number of vertebræ and is confined to the painful ones. When a normal person bends forward and tries to touch the tip of his feet with the tips of this fingers, the dorsal and lumbar column forms a continuous arch which is slightly convex in the lumbar region. If one of our patients bends forward in the same manner, even though the flexure of the trunk is much less pronounced, it is found that the lumbar region forms an arch that is quite sharp and of short diameter; the dorsal region forms another arch much less marked and with a far greater diameter. Be-

tween the two, there is an actual depression. Far from being a regular curve, the spinous line thus becomes undulated. This projection of the line is characteristic and impresses us as being almost the pathognomonic sign of the affection which we are describing. It is not seen in all cases of chronic lumbar rheumatism, but, when it is present, it seems to possess great value. It is this line that has particularly

Fig. 1.—Patient D. Lumbar arthritis. The patient, walking as straight as possible; bending forward and a little to the left. Slight curvature, but no kyphosis. Although he can not straighten up spontaneously and while every attempt to do so is painful, he can straighten out completely when lying in bed. The spinous apophyses of the third to the fifth lumbar vertebræ form a very evident oblong projection.

attracted our attention and incited us to undertake radiographic examinations which almost constantly furnished a clearly positive result.

In a general way, it is admitted almost as a dogma that every spinal lesion produces a contracture of the perivertebral muscles and an immobilization of the vertebral column or at least of a portion. This is the case, for instance, in Pott's disease which, in the opinion of so many observers, still comprises almost the entire pathology of the vertebral column. In our patients, this is not the case. There occurs no or hardly any contracture of the lumbosacral muscles; they are at times slightly thickened or stiff but commonly less so than is seen in common sciatica.

Mobility of Vertebral Column

The "active" mobility (so to speak) of the vertebral column is certainly reduced since, usually, the patients can not straighten up completely nor bend forward like normal subjects. However, if they stoop, it will be found that the vertebræ of the affected region are not immobilized upon each other as is the case in Pott's disease. They do not have a "wooden spine."

As to the mobility of the vertebral column which might be called "passive," it is astonishingly preserved; lying extended on a bed, the patients can stretch themselves with perfect ease so that head, pelvis and feet touch the plane of the bed. Lying prone, they can likewise stretch out completely, but generally the position is very painful and it is then found that the physiological lumbar lordosis, which should be particularly well marked in this position, is not noticeable at all. When, in this position, one lifts the patient by the thighs, he seems to have pain, but it will be found that the lumbar column becomes more or less hollow, and thus reveals the preservation of a relative mobility of the individual vertebræ one

In Fig. 2, the same patient attempts to touch his feet and bends forward almost in the maximum degree. The angle formed by the trunk and the hips does not attain to 90 degrees. The projection of the lumbar spinous apophyses is accentuated and reaches as high as the first lumbar vertebra.

upon the other. Finally, when the patient stands straight and his shoulders are turned alternatively to the right or left, it will be found that the lateral mobility of the column sometimes is more pronounced in the dorsal region than lower down; but that it is never completely abolished in the lumbar region as it is the case, for instance, in lumbar Pott's disease. These attempts at lateral bending of the trunk often give rise to pain, maybe in the loins, maybe more in the buttocks or thighs. However, this pain frequently is less pronounced than that in common sciatica; moreover, it is felt frequently on bending the trunk

to the side opposite to that where the pain is. This is seen only exceptionally in common sciatica.

Radiographic Findings

The absence of spinal contracture and immobilization was hitherto considered as a negative sign almost sufficient to eliminate the existence of an inflammatory vertebral lesion. It was assumed that the spinal column was not affected since the vertebræ have maintained their motility and the patient can straighten out completely. Struck by the number of cases where these subjects, coming from different places, complained of the same tenacious lumbar and sciatic pains, struck especially by the almost constant presence of a curvature, at least of the trunk, and an abnormal projection

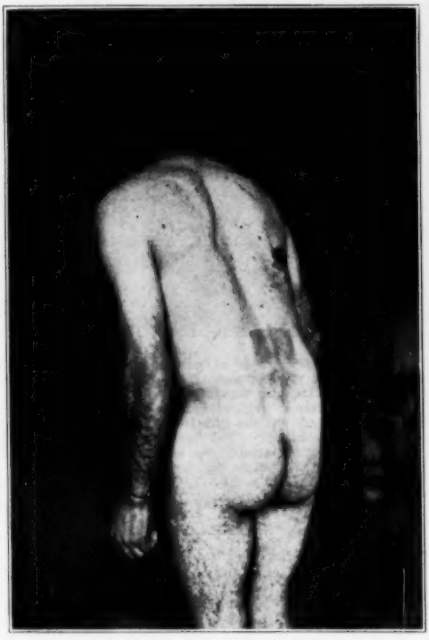


Fig. 3.—Patient B. Lumbar arthritis. Showing the bending forward, the large undulation of the back, the projection of the line of lumbar spinous processes together with a certain flattening of the region. A blister has been placed here.

of the lumbar spinous line, we were induced, despite the preservation of the spinal mobility, to subject them to radiographic examination. The result has been almost always positive.

In a radiograph taken from the front, we find, in general, that the vertebral bodies are strongly grooved by the enlargement of their superior and inferior extremities and by the relative diminution of their middle portions. They assume the appearance of a pulley groove or, if you wish, a *"Vertèbre en diabolo."*

Moreover, the vertebræ have the appearance of being sunken and they are, further, relatively transparent as though there had been a certain tendency to decalcification.

Exceptionally, the sinking of one vertebra is clearly more marked on one side than on the other, corresponding to a lateral deviation of the trunk.

Fig. 4.—The same patient. Notice the very evident inclination of the trunk toward the left side; although there is no scoliosis, properly speaking. The right hip is projecting. A transverse abdominal fold corresponds with the bending forward of the trunk.

On a certain number of vertebræ, particularly those where the pain and, especially, the spinous projection are at their maximum, it will be found that the superior or inferior extremity is prolonged like a sort of elongated beak which is curved and tapered. This prolongation is found frequently opposite an analogous prolongation in the neighboring vertebra. They are separated by the thickness of the intervertebral disc. The result is the very characteristic appearance of a parrot's beak.

This latter is readily explained on noting, in numerous museum specimens and also in some that we have collected ourselves, the "osteophytic crowns" that adorn the superior or inferior surfaces of the vertebræ, which sometimes are as much as twice the normal and

which constitute one of the essential characteristics of chronic vertebral rheumatism (*rhumatisme vertébral ostéophytique* of Prof. J. Teissier). It appears evident that the "parrot's beak" is formed by the projecting brims of new ossification.[1] These new-formed osseous projections, which taper off one in front of the other beginning with two superincumbent vertebræ, ultimately surely become fused and immobilize the vertebræ involved. But, they remain differentiated very long, separated at the level of the intervertebral disc and it is thus that we have observed them most often in our patients, who had been ill for a relatively short time, since they had become soldiers and had become afflicted in the army service, also in those who had been in service for several years.

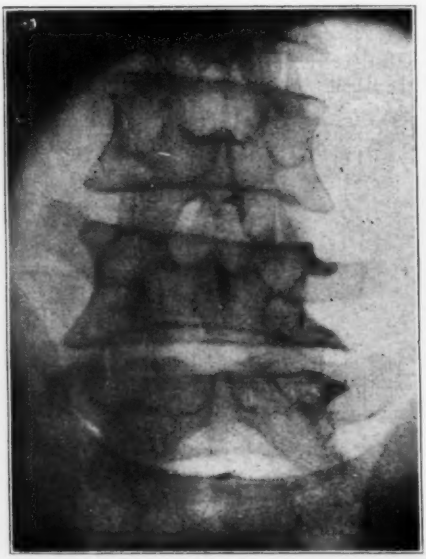


Fig. 5.—The same patient. The radiograph shows an enlargement of the vertebral surfaces, formation of bony, hook-like projections on the fourth and fifth vertebræ. Unequal crushing of the fourth, being more marked in the left portion of the vertebra. This explains the inclination to the left. The apophyses appear inflated.

The osseous proliferation can not be systematized in like manner. Osteophytes may become conglomerate, as nodules or as large tubercles the size of a hazelnut and even a walnut, and may show upon the radiograph as quite dark shadows with regular contour, on the body or any portion of the vertebra, especially near the disc.

The osteophytic proliferation does not take place without a certain degree of decalcification and of osteoporosis of the old bone and without a certain grooving of the vertebral bodies. This rarifying osteitis is, to a certain degree, inseparable from every chronic rheumatism and it is the new-formation that gives to the vertebræ their deeply-grooved and abnormally-transparent appearance[2]

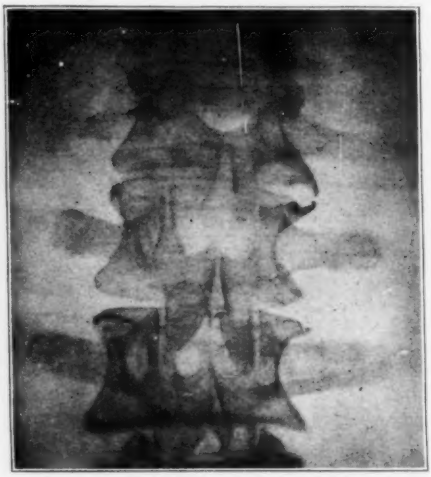


Fig. 6.—Radiograph of patient L. Typical hooks curved in and thinned out. They are developing opposite the left side of the first and second lumbar vertebræ and form a regular "parrot's beak." The hook is less marked on the third vertebra. Tendency to *vertèbre en diabolo.* The spinous line on the back of the patient especially marked at the level of the first and second lumbar vertebræ.

Finally, as Professor Teissier and we ourselves have shown, all transverse articular spinous apophyses and also the vertebral lamina are thickened and "blown out." Probably it is this diffuse thickening and perhaps in particular the blown-out condition of the spinous apophyses that cause the special projection of the lumbar spinous line that we have observed clinically, especially when the patient bends forward.

The radiographic findings, even more than the clinical ones, justify our assertion that there exists in our patients actually a chronic vertebral rheumatism localized in the lumbar region.

The Course of the Malady

What is the evolution of this affection? A priori, one is tempted to view it as progressive,

[1] These beak-shaped osteophytic proliferations are not peculiar to the vertebral column. They are sometimes observed in quite analogous form on radiographs of different joints affected with chronic rheumatism and even on the pictures of certain fingers showing the simple nodosities of Heberden.

[2] The cartilages are often thickened very irregularly and the superior and inferior surfaces of the vertebræ are irregularly undulated.

definite and incurable. However, we are able to affirm that this is not the case. The malady progresses by repeated attacks each one lasting several months, from two to eight or ten. Several of our patients informed us that they had had several analogous painful attacks, either in military service or in civilian life; apparently they had recovered from them quite well enough to have been accepted or retained in the army. We have been able to follow up this evolution in several of our patients and notably in one of them; exactly one with the

Fig. 7.—Radiograph of the profile of the lumbar vertebral column, patient S. A front view had shown hardly any lesion, despite the characteristic posture of the patient. The lateral view shows quite evident lesions in the form of projections and hooks of the superior and inferior surfaces of the fourth and fifth lumbar vertebræ. The contour of the surfaces is irregular and undulated. Normally, the profile of the vertebral bodies appears almost cubical in shape on the radiograph.

most curvature; one of those who appear to suffer most, whose lumbar vertebral column and entire lumbar region were among those most projecting and whose vertebral lesions, on the radiograph, were among the most clearly marked and most indisputable. After three months, this patient had seemingly absolutely recovered. True, the osseous new-formations persisted, but the patient suffered no more pain, either spontaneously or on pressure or on moving; he held himself entirely erect and bent forward perfectly. The lumbar spinal column had become straight again and the kyphosis had given place to a certain degree of physiological lordosis.

The possibility of so perfect a clinical cure, at least temporary, must be known in order to appreciate justly the result of the treatment that is instituted, and also the medico-military decisions that are to be made.

A Definite Clinical Form of Rheumatism

The clinical appearance of the affection, the radiographic pictures, certain anatomic findings

Fig. 8.—Patient P. Shortly after his admission, the patient is found strongly bending forward and unable to straighten up. The back is undulated because of the projecting lumbar region. The lumbar spinous line projects.

that we have been in a position to make, establish the malady, as a *localization of chronic vertebral rheumatism.* There is, thus, no question of a new and autonomous clinical entity, but rather of a clinical form of rheumatism, in the same manner as deforming polyarthritis of the extremities or a deforming rheumatoid arthritis of the hip, for instance.[3]

This clinical form is much more frequent than are other forms of chronic vertebral rheumatism that have been described hitherto.[4]

[3]During the war, we have also observed very frequently forms of chronic rheumatism that were localized in the hip, characterized by pain appearing periodically and by a relative immobilization in certain directions, and which often could be diagnosed only by careful radiography. These chronic deforming arthritides, associated with osteophytes and rarification, occur also in young persons and, like lumbar arthritism, often give rise to mistakes, notably to false accusations of simulation. They are entitled, by analogy, to the designation *coxarthritis.*

[4]Chronic vertebral rheumatism has hitherto been considered as a clinical rarity. According to the authors, it is seen in persons from 40 to 60 years of age and more; it never involves the vertebral column exclusively; affecting always at the same time the joints of the extremities. The pain, the contraction of the perivertebral muscles, and the bony ankylosis immobilize the back. This is an essentially progressive disease. The localized forms are even more infrequent than is the generalized form. A dorso-lum-

In contrast to them, it persists in young subjects, it is neither progressive nor rapidly ankylosing; clinically it is rigorously localized in so far as it affects hardly ever simultaneously either the joints of the extremities or even the other portions of the vertebral column.

Fig. 9.—Same patient two months later. Completely straightened out. The abnormal projections have disappeared, as has also the pain.

That does not mean that radiography does not sometimes show some rheumatic alterations in the cervico-dorsal spine or even in the limbs. It may happen exceptionally that these alterations produce clinical manifestations like a deforming arthritis of the hip, for instance, which may be noted in the course of deforming rheumatism of the fingers; although these two localizations of the same process are not ordinarily associated. However, in lumbar arthritis, rheumatic alterations outside of the lumbar region are almost always absent even by means of radiography, or they are clinically silent, as are the vertebral changes of lumbar arthritis itself during the intervals. With regard to the clinical aspect of rheumatism, lumbar arthritis is entirely independent.

Relation to Other Diseases

Certain varieties of osteophytic vertebral rheumatism, especially those that give rise to voluminous hyperostoses, have been attributed to syphilis, with some appearance of reason. On this account, we have attempted to determine whether this latter disease plays a role in the etiology of the affection under consideration. However, neither in the history nor in the complete physical examination of our patients have we been able to find anything that might make us think of a syphilitic infection—with the single exception in a man who had a plaque of leukoplasia on the buccal mucosa. It was also in this man alone, out of 12 cases examined, that the Wassermann test was found to be positive. In another case, it was partially positive; in the remaining 10, the reaction was clearly negative.

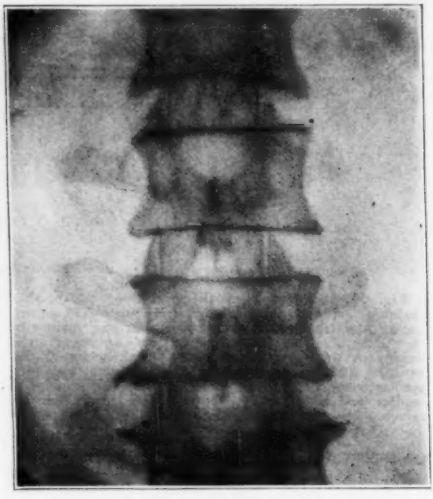


Fig. 10.—The same patient. The radiograph shows abnormal osseous proliferations forming hooks at the level of the third and fourth lumbar vertebræ. The right side of the second is slightly flattened, the right transverse apophysis is inflated. These bony alterations persist in spite of clinical cure.

Tuberculosis was no more responsible. In not a single one of our patients was there anything, in history or physical examination, that

---

bar form, described by Professor J. Teissier and his pupil Jouve, presents symptoms of a very grave malady with absolute impotence of the lower limbs, considerable muscular atrophy, often secondary arthropathies in both knees, intense vasomotor disturbances, massive edemas, elephantiasis, etc.

(Consult: J. Teissier and Roque: "Rhumatisme chronique" in Brouardel-Gilbert, "Traité de Médecine". J. Teissier: "Les formes cliniques du rhumatisme chronique"; Report to the Congrès de Médecine de Liège, 1905. Thanassesco: "Le rhumatisme chronique de la colonne vertébrale"; Thèse, Paris, 1892. Jouve: "Rhumatisme vertébral", Thèse, Lyon, 1902. Forestier: "Spondylose rhumatismale"; *Arch. de méd.* 1901 and "Nouvelle Iconographie de la Salpetrière," 1904. Terras: "Les maladies ankylosantes de la colonne vertébrale". Thèse, Paris, 1908. Pierre Marie: "Deux cas de spondylose rhizomélique". *Rev. de méd.* 1898. André Léri: "La spondylose rhizomélique"; *Rev. de méd.* 1899. Idem: "Pathogénie des ankyloses vertébrales". Report to the Congrès de Lyon, 1906. Idem: "Diagnostic des maladies ankylosantes, etc." *Clinique*, 1908. Idem: "Les Spondyloses". *Journ. français de méd.* 1912.)

would point to tuberculosis. Blenorrhagia has never seemed to us to be a causative factor.

Rhizomelic spondylosis requires mention only to be discarded as having any connection whatever with the disease. True, rhizomelic spondylosis commences commonly with lumbar or lumbosacral pain, but almost simultaneously there is pain and ankylosis of the hips. The malady is progressive and usually progressively ascending. It causes ankylosis and immobilization, successively, of the entire spine and the articulations at the roots of the limbs. It is ordinarily of infectious origin and blenorrhagia

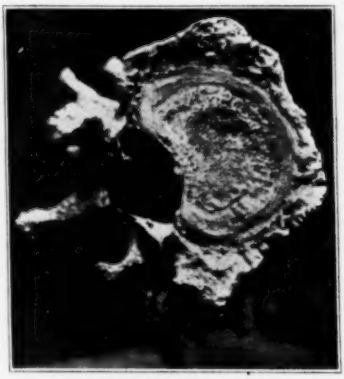


Fig. 11.—Chronic rheumatism (Dupuytren Museum): Lumbar vertebra, its superior surface. Surrounding the vertebral body, there is seen an irregular layer of bony new-formation, almost doubling the surface of the vertebra. It is grooved, passing in front of an analogous groove of the neighboring vertebra. This explains the formation of "hooks" and of "parrots' beaks" which may be seen in radiographs.

as well as tuberculosis may often be discovered in the immediate history or in some actual symptoms.

Moreover, chronic rheumatism, whatever its seat of predilection, is a disease with essentially irregular manifestations and irregular distribution, affecting not only a given joint but also all the intra- and periarticular tissues, bones, cartilages, serous membranes, ligaments, etc. The rhizomelic spondylosis of Pierre Marie is, on the contrary, a progressive and diffuse affection and may be considered primarily as a rarifying osteopathy, secondarily as a systemic and regular ossification, affecting fiber after fiber, the ligaments and their reinforcements, pads and menisci: a meniscoligamentous ossification, so to speak, up to a certain point limiting the process and affording repair.[5]

The radiographic pictures are, therefore, essentially different. In chronic vertebral rheumatism, one finds exostoses and osteophytic formations (parrot's beak, nodosities, etc.); the vertebral bodies are spread and cannulated, but have preserved a notable opacity in comparison to the discs; and the articular interspaces (clearly visible in the lumbar region where the articular apophyses have an anteroposterior direction) have preserved their sharpness of outline. In rhizomelic spondylosis, on the other hand, there are no exuberant proliferations,

Fig. 12.—Radiograph of a specimen of lumbar vertebral rheumatism, lateral view. One can see quite typical hooks and parrots' beaks of the bony new-formations covering the vertebral bodies; vertebræ *en diabolo* and irregularly crushed portions, which are porous. The discs are thickened and irregular. The contour of the vertebræ is irregularly undulated.

the vertebral bodies are little or not at all deformed, but they are rarified and are hardly more opaque than the intervertebral discs; the ensemble is as though uniformly washed out. The articular apophyses are welded by ossification in the place of the ligaments and form an opaque band on each side of the vertebræ; the articular interspaces have disappeared.

Not Exclusively in Soldiers

Lumbar arthritis surely is not rigorously limited to soldiers. One of our patients, at least, had experienced an attack before his mobilization, and we have seen other patients who had never been soldiers. Moreover, this is proved by certain earlier observations scattered through literature, which deal very probably with the same type, and also by numerous

[5] André Léri: La spondylose rhizomélique. *Rev. de méd.* 1899.

anatomical specimens of vertebral rheumatism localized in the lumbar region, which are found in museums. The latter appear for the greater part to have been discovered on autopsy. Still, this disease certainly has become much more frequent since the war and, in this respect, it may be considered as a form of war maladies.

The cause of this abnormal frequency must certainly be sought in the special conditions in which the soldier finds himself in the field. Even during periods of rest, he sleeps on the damp ground or at most on a little damp straw in barns that are too frequently invaded by water. On the line, he lies often right in the water which could not be removed entirely from the trenches and shelters. In addition, he rests his back against freshly turned earth. It would be surprising if there did not occur, by predilection in the region of the back, what Professor J. Teissier has called the "localized effects of provocative humidity" and of which he has reported very interesting instances, as long ago as 1905, in his report on "The clinical forms of chronic rheumatism". As a matter of fact, most of our patients belonged to the infantry, a branch of the service where one occupies too often first-line trenches that are not sufficiently prepared, are open and uncomfortable.[6] Another factor, undoubtedly adjuvant, is the often excessive exertion to which the muscles of the back and especially of the lumbar region are exposed in the soldier, particularly the foot soldier: we are thinking of long marches in the mud, the weight of the knapsack and shoulder strap, and the heavy "barda" of the trenches.

Lumbar arthritis is actually one of the effects of the localization in the back of dampness and of fatigue. There exists quite a "pathology of the back" which is almost a war pathology. Thus, like ourselves, several authors have remarked that polyneuritis, which is not very infrequent in soldiers at the front, affects almost always in some degree the sacrolumbar muscles. In like manner, certain cases of amyotrophy seemed to affect with particular frequency the muscles of the dorsal region and, in some instances, we were able to incriminate a more or less localized cervical vertebral rheumatism, etc.

There is some cause for astonishment that an affection, which is so frequent and so well characterized as is lumbar arthritis, has not been discussed hitherto. Undoubtedly, the reason is, that it had not been sufficiently isolated and described. In fact, numerous physicians have seen instances of the disease since we have called attention to it. May one assume that it had not been observed until then? Surely not.

[6]It seems to us that cold is of less importance than dampness. The painful attacks started in our patients almost indifferently at all seasons of the year; as much during the warm months as in cold seasons. This coincides with what has been stated concerning the general etiology of chronic rheumatism.

Relation to Sciatica

In the foregoing, we have said that most cases of lumbar arthritis had been entered in our service with the diagnosis of lumbago or of sciatica. It seems certain that, under these names, many cases of lumbar arthritis have been erroneously diagnosed in the absence of radiographic examinations. As far as sciatica especially is concerned, we have shown, as have also Sicard[7] as well as Schoeffer and I[8] that most cases of common sciatica, so called rheumatic, were accompanied by radicular symptoms and took their inception in the extrameningeal portion of the nerve roots, in their passage through the intervertebral openings and the anterior sacral canals. Schoeffer and I have supported this hypothesis by stating that, in more than half the cases of sciatica, the cephalospinal fluid shows a moderate lymphocytosis—from 10 to 20 or 25 lymphocytes in the microscopic field—so that it is produced, in cases of irritation, not in the meningeal membrane itself but in its immediate neighborhood.

Lumbosacral vertebral rheumatism thus seems to us to be the *ordinary* cause of sciatica. Be it understood, it is most frequently a question of an attack of acute rheumatism, not discoverable by radiography. But, after what we have seen, we are convinced that many of the cases of common rheumatic sciatica are in reality merely the manifestation of the chronic osteoarticular alterations of lumbar arthritis, with active exacerbations.

Relation to Vertebral Affections

On the other hand, it seems certain that lumbar arthritis corresponds, at least in a very great number of cases, to those which have been noted everywhere since the beginning of the war and which were diagnosed as spinal curvature, spondylitis, camptocormia, spinal curvature, etc.: the curved posture of the trunk without implicating its pathogeny. As a matter of fact, these cases have generally been considered as indicating a *functional* irregularity with or without commencing in an organic spine.

The clinical characteristics of these curva-

[7]Sicard: "Le Movement Médical," 1913.

[8]André Léri et Schoeffer: Sciatique et lymphocytose.—La sciatique vulgaire "rhumatismale" est généralement d'origine radiculaire.—Le rôle des canaux sacrés antérieurs.—*Soc. méd. des Hôp. de Paris*, 12 *mai*, 1916.

tures, or camptocormias, are as follows: variable incurvation of the back with more or less accentuated flexion of the hips; pain that is apparently severe; limited voluntary correction and incomplete movements in the erect position; generally complete and spontaneous correction in the horizontal position, showing that the mobility of the spine is preserved; frequently recovery after variable periods of time, which, often is very difficult to secure and may not occur until after several months of fruitless attempts, psychotherapy and others, sometimes after the application of a plaster-of-Paris corset.

Are not all these characteristics exactly those which we have described as being those of lumbar arthritis, and is not this affection at least one form of the camptocormias?

With regard to etiology, two categories of camptocormia are distinguished: some patients have been shocked by the bursting, close by, of a shell; they were thrown down, thrown a distance, or even buried; others suffered no traumatism, either direct or indirect, great or small.

Most of our cases of lumbar arthritis had developed spontaneously and without previous shock.

It is far from us to deny the existence of purely functional camptocormia, with or without preceding shock. Like many of our colleagues, we have even cured certain cases of this kind, promptly and lastingly, by means of a somewhat energetic persuasive psychotherapy. But, these cases are not in the majority; far from it. Even in the hands of the most experienced, the camptocormic patients do not ordinarily recover as quickly, and sometimes we have been consulted by a patient who had been "cured" in another service. In these latter cases, we see hardly a perceptible difference, a priori, between the shockless camptocormia and lumbar arthritis.

Effect of Shock

Is there an essential difference between patients affected with lumbar arthritis and those with camptocormia who have been shocked or thrown? Excepting those cases which psychotherapy cures very promptly and also those cases, more numerous than is held to be the case, where a crushing or sinking of the spinal column pass unperceived in radiography, we believe that a goodly number of the socalled camptocormics are still lumbarthritics. It must not be forgotten that the relation between camptocormy and traumatism is by no means immediate. After shock or after being buried, lumbar contusions or lumbar pain occur promptly, but the camptocormic curvature is tardy, slow and progressive; it develops in the rear, after the soldier has been evacuated. We have never seen any cases in a neurological center at the front. Reversely, we have seen perfectly authentic lumbar arthritides follow upon traumatism, a fall into a hole upon the back, for instance. It seems quite often that the lumbar trauma, which is very real in some cases of shock from bursting of shells near-by or from being buried, has merely been the localizing cause of a chronic lumbar rheumatism to which the subject is otherwise predisposed because of dampness and overexertion coincident to life in the trenches. Professor J. Teissier has cited cases in corroboration and observed in civilian life of this localizing, predisposing and predominating action of trauma in chronic rheumatism; among others, that of a patient with arthritis deformans of the vertebral column following a railroad accident in which the head was sharply pushed against a seat.

In fine, we believe that there surely exist patients with curvatures or camptocormia who, with or without bursting shell or falling, are only "functional;" that is to say, neuropathics, hysterics, or "pithiatics;" more or less consciously so. We believe also that, through a more or less violent shock, vertebral or perivertebral lesions may be produced which justify an incurvation of the trunk by an antalgic posture, and that the perseverance of this posture after the disappearance of the pain may constitute a camptocormia that is promptly curable by psychotherapy. We believe likewise that, with or without prior shock, a lumbar rheumatism, a lumbar arthritis may determine an antalgic posture entirely analogous, the persistence of which beyond the painful period will produce camptocormia. But, we believe especially that, with or without prior shock, a number of subjects have been diagnosed as camptocormics and considered as functional cases that, in reality were cases of lumbar arthritis, as might have been determined by clinical examination and especially by radiography. In these cases, the vertebral lesions were decidedly organic in nature.

By Way of Summary

Résumé: Lumbar arthritis is a chronic rheumatism, localized in the lumbar region and not ordinarily accompanied by rheumatism of the limbs. It is characterized clinically by a more or less painful curvature of the trunk, with or without flexion of the hips, projection of the line of the lumbar spinous apophyses and sometimes of the entire lumbar region. Com-

monly, spontaneous correction is impossible, flexion-motions of the body are limited. Passive correction is usually complete in the horizontal posture. There is little or no immobilization of the vertebral and perivertebral contraction; no or little amyotrophy.

Radiographically there is a sinking, a transparency, and especially an excessive grooving of the vertebral bodies with enlargement of the superior and inferior surfaces (vertebræ "en diabolo"), sometimes a tapering of the surfaces and a sort of "parrot beak that is quite characteristic; sometimes more or less voluminous nodules of neo-ossification; a thickening of the cartilages and an abnormal undulation of the vertebral borders.

Anatomically, there is osteophytic proliferation, often crown-shaped.

This affection is particularly frequent in soldiers in the trenches, even in the young; because of the dampness and the overexertion to which especially the dorsolumbar region is subjected; however, it is not limited to soldiers. Its course is by exacerbations lasting several months, each one of which may terminate in apparent cure.

It does not seem to differ from most curvatures and "camptocormias" of non-traumatic origin, and probably it also is a frequent form of camptocormias that appear to have a relative trauma, direct or indirect, for causes which may be occasional or determining, and more or less immediate. It appears to be the origin of a certain number of cases of sciatica.

Salicylate of sodium and immobilization seem, so far, to constitute the treatment of selection. This affection and its mode of evolution are particularly useful to know and appreciate with reference to medico-military decisions.

The Pathognomic Characteristics of the Three Types of Pain in Abdominal Disease

By G. J. WARNSHUIS, M. D., Forman, North Dakota

EDITORIAL COMMENT.—Abdominal pain, with some people, and often with some physicians, means usually appendicitis. That this one-sided view is mistaken and may lead to serious errors, not only of diagnosis but of treatment, is shown well in Doctor Warnshuis' interesting discussion of abdominal pain. We have here an inquiry which is all the more useful for our purpose as it is presented by a general practitioner engaged in the active practice of medicine. It is not a theoretical disquisition; it is based on actual clinical observations and on a careful study thereof. We congratulate ourselves and our readers on being able to present this remarkable paper to them.

THE broader our conceptions and the wider our understanding of basic principles governing the activity of both, the lower and more highly organized forms of life, in their reactions to their environments; the more carefully we have built up and repeatedly examined these conceptions as we analyze new experiences and information; the greater will be our ability to correct the individual instances of disease that we encounter from day to day. I trust, the reader will not be dismayed by this somewhat involved and perhaps awkward statement of the ideal of modern medical education and the attitude of mind in which the practitioner should approach his work. It is, however, quite pertinent and a necessary preface to the subject about to be discussed. A great many of the short-comings and indifferent results of our colleagues may be attributed to a lack of perspective, an inability to weigh all the signs and symptoms in a case in all their significance, to recognize what is important and what is unimportant.

You recall the Red King, in Alice in Wonderland, when in the course of a hearing he asked a certain remark to be repeated. "That is important," he said.

"I think, your Majesty means unimportant," said the clerk.

"Important, unimportant," repeated the King to himself over and over, as if weighing each word to decide which had the proper sound. "Yes, I believe you are right," he finally agreed. "Put down unimportant."

What is Important?

That may not be the story exactly, but the point is there. How often have we seen a doctor taking a history in an obscure case and perhaps pass over some little detail which, if scrutinized more fully, might give him just the clue he needs. Perhaps the patient comes in complaining of a pain in the side. He mentions

that he had a cold two weeks ago. The statement may even appear in the past history. One of these thorough histories, you know, tells all about the color of the hair, the length of the upper lip, the negative Babinski, and all that. Nevertheless, it is very likely that no attempt has been made to discover whether the present pain in the side has any relation to the onset of the cold. Such errors are due not so much to a lack of knowledge or to poor perceptions as rather to a defect in the critical faculty. The difficulty in teaching men to exercise this power arises because the development of it depends largely on the kind of brains the individual is originally endowed with. A friend of the great Agassiz tells the story of the naturalist's remarkable power of observation. He says, he was one time out for a walk with him and he was impressed by the great variety of birds that Agassiz pointed out to him as they strolled along. He remarked that it struck him as a queer circumstance that he had never observed so many when walking alone. "You have to see them first within the mind," replied the naturalist. A man observes the things he thinks about and, in these days of short skirts, it is not difficult to discover the trend of most men's thoughts.

I recall a certain professor of my school days who, to test the powers of observation of his class, asked them all to write down the letters that were inscribed in the stone arch over the entrance to the building. We had all seen these letters and observed that certain ones had broken off, but none of us were able to recall which they were. This, of course, was quite natural, as none of us had ever had enough curiosity to consider what the exact relationships were, and the ability to recall an impression unassociated with other ideas is extremely limited. The test was not so much one of observation as of curiosity, and, hence, a very poor one, as anyone manifesting sufficient curiosity to have speculated on the condition of those letters must have had an idle fancy, indeed. The man who observes the greatest number of significant details about his patient will not be the one who inanely notes shape, color, and size but who has thought deeply about each perception he receives and who carries with him a large store of associated facts for comparison.

Of Specialists

All this may appear like a digression but, if you will follow me a little farther, you will see what I am getting to. Sir James MacKenzie has pointed out very clearly the defects of overspecialization and the indifferent study of symptoms that it leads to. The fault lies not in the practice of specializing, which is a very splendid and necessary part of medical practice, but in the fact that the demand for specialists has become so great that there are not enough men with brains big enough to fill the position. It takes a lot of brains to be a good general practitioner and, the better he is, the more he realizes his shortcomings. It takes more brains to be a *good* specialist. One has no right to call himself a specialist unless he is as well versed as any general practitioner in the normal and abnormal functioning of the human organism, in the recognition of morbid conditions in their incipiency as well as their final stages and the remote effects of such changes. If he is not that, he is a pseudo-specialist; his specialty is an admission of ignorance of everything outside it. A heart specialist who knows nothing but murmurs and electrocardiograms and who fails to see the connection between a murmur and renal excretion or constipation or a gastric ulcer or whatever it may be, a surgeon who thinks of disease only in terms of the lesions he discovers on the operating table, a gynecologist who can not see the connection between a retroflexed uterus and a pendulous breast—mountebanks substituting cystoscopes, x-rays, atomizers, and all sorts of contrivances for intelligence and years of study.

Careful Study Needed

When we consider that the disturbances of function in an organ are more often due to lesions outside that organ than in the organ itself (particularly in the earlier stages of disease), it must be admitted that there are very great limitations to the practice of a specialty without a thorough understanding of the physiological and pathological conditions that affect the entire body, and in this sense no disease may be considered as purely local. The surgeon or specialist who does not base his study of his cases on a broad experience with individuals in all stages of health and disease, on years of critical analysis of a great variety of complaints and disorders, is apt to become a mere empiricist in his reasoning, to think by analogy and contingency rather than by deduction. He loves statistics, tables of comparative frequency of such and such symptoms. He can not generalize except in this simple comparative way, he can not group his clinical data according to their relation to underlying causes, he can not ascertain the degree of functional disorder in an organ by its effects on other organs or its behavior under different conditions, but must rely on the correspondence of the symptoms and signs to certain tabulations

and technical descriptions he has memorized. With what solemnity we hear some of these celebrities, these "quick-Watson-the-knife" boys, propounding how in such and such a series of 569 cases they found a certain sign present in 67.3 percent. Perhaps a simple analysis of about two cases would have shown them the factor responsible for the sign and indicated the frequency with which it could have been anticipated. Such rule-of-thumb methods can not develop diagnostic skill, regardless of how much they may be bolstered up by a hocus-pocus combination of test-tubes and burettes and other dazzling paraphernalia. Only the application of the same careful scrutiny and deduction to clinical manifestations, as it is exercised in the laboratory, can produce this facility.

Causes of Abdominal Pain

We come now to the point of this preamble. Let us apply this kind of study to the consideration of abdominal disease. Let us imagine that a patient presents himself complaining of pain in this region. Right away, our pseudo-specialist brings up visions of ulcers, gall-stones, pus cavities, curled-up appendices, hydropic kidneys. Not so fast, I say. Stand back a little, you can not see the forest for the trees. What do you know about pain anyway? The first thought that should be suggested by this complaint is, that a nerve is being irritated somewhere in its course. Before we consider where, let us ask how. Physiologically, there are five agencies: heat and cold, pressure, chemical irritants, electricity. Under ordinary internal conditions, we can reduce these to heat and pressure. Intra-abdominal changes of heat and pressure fall into three groups: inflammation, tumor, muscular spasm. Tumor may be produced by distention of a viscus or by a new growth.

Assuming such a pathological classification, is it possible to distinguish clinically which of these three morbid conditions is the cause of the pain? It is certainly not very difficult for us to recognize the difference in our subjective sensations when the nerve endings in the skin of the hand are being stimulated by juxtaposition to a hot iron or when such stimulation comes from the weight of a brick resting on the hand. Thus, in so far as the external surface of the body is concerned, we observe that pain is not only the sensation which enables the individual to detect the presence of a noxious element and its more or less precise location, but the quality of this sensation also warns him of the nature of the disturbing agent. If we accept this faculty as a part of the universal principle of adaptation, "the adjustment of internal conditions to external relations," by which self-preservation becomes effective, then it would seem equally necessary and important that such perceptions should be developed to the same critical degree in regard to disturbance of the internal organs. An experiment by Sherrington described in his lectures on the "Integrative Action of The Nervous System" is sufficient to illustrate how well justified such an *a priori* conclusion is. He refers to a blood-pressure tracing of an anesthetized cat which shows that, while no change could be produced by cutting or pinching the gall-bladder, there was an immediate and marked fall when it was distended with fluid.

Clinically, experience has shown that there are a number of definite characteristics by which we can differentiate which of these three conditions (*spasm, tumor, inflammation*) is or are responsible for the pain complained of.

Pain Due to Muscular Spasm

The pain produced by muscular spasm differs from the other two types, first of all, by its intermittent quality. A little reflection on the variability of muscular contractility would tell us that this must be true even if we had never observed the clinical conditions in which these painful contractions occur. A second feature of the pain produced in this manner is its indefinite and often-times variable location. For example, the pain of uterine contractions may be felt in the supra-pubic region or in the back or in either inguinal region, regardless of the position of the uterus. In several cases of labor I have attended, the pains were confined entirely to the back even during the expulsive stage. A third characteristic is, that there is no associated tenderness unless there is a co-existing inflammation or traumatism. To have a condition of tenderness, it would seem that actual injury to the nerve must exist in order to produce the hyperexcitable state called tenderness.

This kind of pain is well illustrated in the following case exhibiting Dietl's crisis. The patient was a woman, 36 years of age. Illness began suddenly with an intense pain in the lower right abdomen (what the surgeons like to call the appendiceal region) with nausea and vomiting, faintness and acceleration of the pulse. As the pain was intermittent and colicky, there were all the indications of a muscular spasm; but the fact that the pain remained so well localized still left a possibility of an associated inflammation. There were none of

the other characteristics of the pain of inflammation, however, and, in addition to this, the temperature was below normal, and there was a history of the appendix having been removed. The only two conditions that occur to me that could produce a muscular spasm in this region are, renal calculus and intestinal obstruction. I should perhaps include ectopic pregnancy, but the history in this case readily eliminated that. Now, the clear, mucous character of the vomitus, the absence of a palpable tumor, rigidity or distention of the abdomen did away with the idea of intestinal obstruction and, with a history of urinary disturbances, I decided that this must be a case of renal calculus. A hypodermic of morphine relieved the pain, and there has been no reoccurrence for several weeks. This was a second attack in three months. An interesting feature of this case, which is very important in our differentiation of these three types of abdominal pain, was the entire absence of tenderness regardless of all the palpation I exercised, deep palmar and finger-point, bimanual, lumbar, and abdominal, in spite of the extreme severity of the pain.

This absence of tenderness, in pain of purely spasmodic origin, is well demonstrated by the pains of labor during which the heaviest kind of pressure over the fundus fails to elicit any tenderness. It is true that patients may complain of pain when such counterpressure is exerted, but this pain is caused by the increased force of contraction and the pressure on the os uteri and not because of any tenderness in the contracting fundus.

Pain of Inflammation

In sharp contrast to the pain of muscular contraction, the pain of inflammation is characterized chiefly by its continuous, unremitting nature, and a steady degree of intensity. The pain of a toothache may not be so bad to endure for a little while; but, when it goes on unrelenting, minute by minute, hour after hour, the victim is ready to suffer even the agony of the dental chair to be rid of it. It is likely to have more of a burning, cutting quality than the other two types of pain. It is always precisely localized and the location does not shift. It may be referred to the region directly overlying the inflammatory focus or to some nearby point, but there is always a definite relationship between the referred point and the focus, the relationship being governed, as is well known, by the nerve distribution and the spinal-cord connections of the area involved. If muscular tissues are affected, it is likely to radiate in the direction of adjoining nerve fibers whenever a contraction occurs on account of the sympathetic excitement of nearby nerve cells from the exaggerated sensory impulses coming from the hyperexcitable nerve fibers of the inflamed part. Tenderness over the involved organ is always associated with this kind of pain and is definitely localized, often precisely localized.

I shall briefly describe a case of acute, rapidly fulminating appendicitis that we were obliged to diagnose entirely by the nature of the pain. A man, about 40 years of age, well nourished, of large build, was taken at midnight with an intense pain in the lower right abdomen. He called his family physician, who administered ¼ grain of morphine hypodermically, but without relief. There was no nausea, no vomiting, no fever, only this intense, burning, continuous pain referred to the right inguinal region and a tenderness over the appendix. At 5 a.m., he was brought to the hospital and an immediate operation disclosed a large, gangrenous appendix with beginning abscess formation. The non-radiating, non-spasmodic nature of the pain served to eliminate ureteral calculus in this case.

Unless one has carefully studied the differential characteristics of pain of inflammatory origin from pain due to other causes, he is likely to conclude from such cases that any pain in the right side justifies operation, and it is largely for this reason that I have chosen three cases to illustrate the characteristics of these three types of pain in each of which cases the pain was referred to this same region.

Pressure Pain

The pain produced by tumor and distention of a hollow viscus is recognized largely by its freedom from the spasmodic quality of the first type and the absence of associated tenderness and the precise localization that we find with inflammation. It is a sensation produced by continued, steady pressure, a dull ache or a feeling of weight rather than the piercing, burning soreness of a torn, hot nerve fiber. This description, I freely admit, scarcely applies to the excruciating paroxysms of pain experienced with a distended gall-bladder or the colicky spasms of a gas-distended colon. If, however, we persevere in the physiological interpretation of these sensations, we shall agree that the sensations referred to in these instances are produced by the muscular contractions brought about by the tension stimulus and are not the subjective impressions associated with fullness and chronic enlargement.

One of the best examples I can recall of a case describing this kind of pain in a very characteristic way was that of a concrete-bridge builder. This man consulted me several years

ago for relief of what he concluded was an attack of lumbago. He complained of a backache, a soreness felt low down on the right side of the back, placing his hand above the crest of the ilium when describing its location. The pain was constant, but not so severe when reclining. It frequently became so distressing, when he was at work, that he was unable to do much more than supervise his construction gang. The pain would extend outward and into the groin when severe. It was not intensified with sudden change of position, as is the case in a rheumatic periarthritis. Jolting would produce a pain in the lumbar region. There was no history of colic. Examination readily revealed a floating kidney with associated enteroptosis. The patient was fitted with an abdominal supporter and there was no recurrence of the pain in the four years subsequent, in which I was able to observe him.

I attributed the abdominal relaxation in this case to an operation for appendicitis about a year previous to the onset of pain in the back, a much too frequent sequel to laparotomies.

Bearing on Diagnosis

The above case, together with the other two already referred to, illustrates not only the peculiar characteristics of the pain in these three forms of physiological disturbances, but they also demonstrate the value of applying the principles of physiology in the diagnosis as well as the treatment of disease. While the subjective impressions produced in the many forms of organic disease are not always limited to one of these classes and, in addition, an accurate description frequently can not be obtained, nevertheless, there are numerous conditions in which a careful analysis of them may be a great aid in diagnosis, particularly in differentiating the incipient and milder lesions.

For example, in the milder cases of appendicitis, peptic ulcer, cholecystitis, and renal disease, it is not always easy to determine whether the disturbances of gastrointestinal peristalsis and digestion are produced by the reflex irritation from one of these lesions or are purely functional disorders brought on by faulty hygiene and debilitating causes outside of the abdominal organs. In any of these disorders, the patient may complain of pain and, in the case of the latter class, the pain may even appear to be localized with more or less definiteness in the regions commonly ascribed to the inflammatory lesions of the first class. Frequently, the hyperacidity and retention of gastric contents caused by chronic constipation or reverse peristalsis of nervous origin may give rise to epigastric pain similar to that experienced with peptic ulcer, particularly in its periodicity and location.

I can recall at least one patient with this complaint who had been repeatedly advised by a surgeon of long experience to undergo an operation. The pain was more characteristic of distention and muscular spasm, however, than of inflammation, and the tenderness was more of the protopathic than the epicritic variety. Treatment directed toward regular evacuation of the bowels and correction of habits producing excessive fatigue and nervous strain gave him complete relief from his "ulcer" and he remained well during the following three years that I was able to keep in touch with him.

For Instance, Take Gastric Ulcer

We, likewise, encounter many instances of such epigastric pain in the functional disorders arising from chronic appendicitis and enteroptosis. The pain produced by gastric distention and hypertonicity arising from such causes outside the stomach is frequently confused with the distressing symptoms complained of in gastric ulcer. This confusion is brought about because of the failure to recognize that, although the painful distention and hypertonicity are a very frequent condition in gastric ulcer, they are due to associated conditions found in the etiology of peptic ulcer.

An element that makes it still more difficult to differentiate this kind of pain from the very characteristic inflammatory pain of gastric ulcer is its frequent close association in periodicity to the ingestion of food, as I have already indicated. The very typical characteristics of the inflammatory pain in peptic ulcer have been so frequently described that we need not dwell on them here, but consideration of them will demonstrate how closely they correspond to the qualities of pain of inflammatory lesions of any organ as I have described it. To be sure, the question has been raised as to the exact source of pain in peptic ulcer, and some have held that the pain does not arise from direct irritation of the ulcer itself but is caused by the muscular contractions during peristalsis. Experimental evidence indicates that the gastrointestinal mucosa is not sensitive to traumatic irritation, and an inflammatory pain is not produced unless the peritoneum is involved. This, however, does not conflict with our conception of the nature of the pain in these organic lesions, because it is doubtful whether such an ulcer can exist without involving the overlying peritoneum. Until it has been demonstrated that such an ulcer can cause symptoms without involving the deeper structures of the intestinal wall, we must accept the conclusion from clini-

cal experience that the pain of peptic ulcer corresponds to the characteristics of inflammatory pain elsewhere. It is well, therefore, to call attention to one of the characteristics of this kind of pain that we must look for in this disease and that is, its constant, non-intermittent nature. While, the pain usually becomes more intense with peristalsis and the flow of hydrochloric acid following food ingestion or immediately before eating, this pain never completely disappears in a true peptic ulcer, and an associated, precisely located tenderness can also be elicited.

To Summarize

The careful consideration of a single symptom in all its significance is of more value in the diagnosis of a case than the elaborate list of meaningless items that many case histories consist of.

No one is justified in setting himself up as an authority in any specialty who has not spent a period of years in the careful study of individuals in all states of health and disease. Instead of assuming an air of supercilious superiority toward the general practitioner, the true specialist will look back with grateful appreciation of what he has learned in the general practice of medicine.

The consideration of the pain in abdominal disease from a physiological standpoint leads us to divide these sensations into three classes according to the mechanism of its production.

These classes are, (1) pain produced by muscular spasm, (2) pain produced by tumor or distention, (3) pain produced by an inflammatory lesion.

Three cases are cited, one from each of these classes, to show how the diagnosis was determined by a study of the qualities of the pain.

The functional disturbances of the gastrointestinal tract which are frequently confused with inflammatory diseases presenting similar symptoms may be differentiated by a discriminating study of the kind of pain that is complained of.

In conclusion, in place of the classic forms and descriptions of abdominal disease, we exhort the clinician to carry foremost in his mind's eye these three words, SPASM, TUMOR, INFLAMMATION.

The Treatment of Inflamed Inguinal Glands

With Parenteral Protein-Substance and Acriflavine

By O. AHLSWEDE, M. D., M. R. C. S., L. R. C. P., London and Hamburg.

THE treatment of inflammatory swellings of the inguinal glands, subsequent upon infection with gonococci or occurring in consequence of ulcus molle, consisted, in the past, mainly in diverse compresses and in incision into the abscess as soon as this had become walled off. The results were not satisfactory because, all too frequently, fistulæ persisted and disfiguring cicatrixes were formed.

A progress may be noted in the injection of antiseptic solutions or emulsions, which were made as much as possible from the healthy tissue into the infiltration. Among the remedies utilized in this way, the most acceptable has proved to be iodoform suspended in pure glycerin. With this treatment, it is possible, in most cases, to bring about rapid healing of the abscess without fistula formation.

However, the desideratum of an early suppuration of abscess formation is not yet afforded with this treatment. There is no possibility of destroying pathogenic germs of any kind whatever which may be lying in the tissues through direct application of chemical remedies, without injuring the tissues at the same time. All agents that apparently act in this manner do so indirectly by stimulating the natural resistance of the body. It is very probable, therefore, that iodoform-glycerin also acts by protoplasmic activation in the sense of parenteral protein-body therapy and this in addition to its undoubted antiseptic effect.

At any rate, the pain which this method causes is so great that it appears far more important to prevent the formation of an abscess and to remove the acute and painful inflammatory manifestations at the beginning.

Increase Cell Resistance

In order to bring this about, it is necessary to employ remedies that are capable of increasing the natural defensive reactions of the tissue cells. In both, gonorrhea and ulcus molle, the polymorphonuclear leucocytes are important sources of immune substances and also as phagocytes. The cells of the inflammatory granulation tissue also, as well as plasma cells, mast cells, and so forth, must be considered as important producers of antitoxins.

In order to stimulate the leucocyte content of the blood, remedies must be employed that exert a stimulating effect upon the bone marrow. Of such methods, two have proved their

excellence, namely, raying the body with a mixture of light-rays with long and short waves, and the parenteral injection of protein substances. The light-treatments (Alpine sun lamp, Mebolith lamp, etc.) act by stimulating the deeper epithelial layers of the skin (germ epithelium). These produce their special secretions in greater quantity and the secretion products of the skin stand in peculiar mutual relation with the cells of the bone marrow. After raying with quartz light, the leucopoietic and also the erythropoietic systems are stimulated to an increased new-formation of cells.

Still, the effect of these rayings is too little intensive and not adapted for the treatment of acute affections. A better effect is obtained from the parenteral injection of protein substances of varying physico-chemical structure which have recently been studied closely. It is striking how markedly intensive is the reaction, especially of the bone marrow, to such injections. After but a few treatments, as has been shown especially by Mueller,[1] the number of leucocytes in the blood increases enormously, usually with a simultaneous increase of the erythrocytes. The blood picture affords an excellent guide for the satisfactory degree of the desired reaction.

Injection of Milk Protein

Such an increase of leucocytes in the blood is very desirable in treating inflammatory swellings of the inguinal glands. Indeed, it is quite possible to influence inflammatory buboes rapidly and surely by parenteral protein-substance therapy. The course of events commonly observed after such an injection is as follows: After from three to six hours, an increased inflammatory irritation of the affected lymph gland and the surrounding connective tissue is noted which is manifested naturally in greater tension and sensitiveness. Sometimes, but by no means always, there occurs an increase of the body temperature. These symptoms, which are disagreeable for the patient, diminish after a short time, being followed by a pleasant absence of pain. In this manner, it is frequently possible even with one injection (10 Cc.) of milk protein to bring about healing in markedly inflammatory buboes without the occurrence of suppuration. If the latter has already commenced, it is, of course, not possible to bring about its retrogression. However, the abscess formation will be carried to a conclusion far more rapidly. The purulent content of the abscess cavity becomes liquified promptly and can easily be aspirated with a large-caliber needle.

According to the exact investigations of Antoni,[2] the contents of these suppurating buboes consist mainly of polymorphonuclear leucocytes. In addition, there are tissue débris of all kinds, red blood corpuscles, usually in great number, and also very many greatly degenerated leucocytes. The contents are mostly almost entirely free from germs. Those bacteria that are present show marked signs of degeneration (bulb form, drop form). These permit the conclusion that an intensively deleterious effect has been exerted upon these germs.

After the abscess has been incised and the pus removed, it is necessary to cause the walls of the abscess (consisting of necrotic tissue) to liquify and to stimulate the formation of vigorous granulation tissue. Until now, it was customary to fill the abscess cavity with a strongly disinfecting solution or emulsion. The agent most frequently used for this purpose was iodoform-glycerin. However, the pain caused by these injections is sufficiently well known and it is of importance to bring about a lessening of the pain.

Acriflavine

Recently, a remedy has come to our knowledge, experiences with which promise a valuable addition to our armamentarium. Acriflavine is an acridine-dye which has the advantage of being soluble in water and also in alcohol. According to the investigations of Langer,[3] the bactericidal effect of the acridine-dyes is enormous. *In vitro*, a solution of 1:5000 becomes entirely sterile after only three to five minutes. This rapid effect is attained by no other disinfectant. Even in a dilution of 1:320,000, acriflavine kills staphylococci with certainty. In addition to this enormous bactericidal effect, the relative non-toxicity of this remedy constitutes a remarkable advantage. Langer has shown that an undiluted acriflavine, placed on the conjunctival mucosa of a rabbit, produces only a transitory redness. Intravenously, also, rabbits tolerated 0.007 kilograms per kilogram body weight. Accordingly, a concentration of 1:10,000 is attained in the blood, which is thirty times the effective dose. This slight toxicity to the tissue cells makes it possible to employ the remedy widely. Large parts of the skin may be painted with it without fear of producing toxic symptoms. For irrigation and local application to the very sensitive urethral and pharyngeal mucous membranes, acriflavine may be employed with decided success.

In addition to this strong disinfectant effect, there is observed a stimulation of copious granulation tissue. In this respect, acriflavine is comparable to scarlet red, except that it does

not produce the irritation which frequently follows after the administration of the scarlet red. It is easy to note how the necrotic tissue is promptly liquified, while fresh red granulations appear under it. On account of this non-irritating action, acriflavine is indicated in extensive intertrigo, a condition in which it is important to secure a rapidly drying effect and also a prompt restoration of the epidermis. The suppurating, weeping eczema of the skin that appears frequently in perforating abscesses of the inguinal lymph glands is healed promptly by moist compresses with solutions of acriflavine, 1:4000. In order to prevent the extension of purulent inflammations upon adjoining portions of the skin, it is sufficient to paint the skin with a 2-percent acriflavine-alcohol.

The treatment of an abscess of suppurating inguinal lymph glands, after incision and removal of the pus, is done in such a manner that the abscess cavity is irrigated with aqueous solutions of 1:1000 acriflavine. This is done best under pressure, in order to force the solution (which is not at all toxic) into all cavities and folds of the necrotic tissue. When this has been accomplished, the cavity may suitably be swabbed out with acriflavine tampons. This, though, is usually impossible because of the extreme sensitiveness of the suppurating inguinal lymph glands.

Since acriflavine does not produce precipitate or enter into combination with protein substances, it may be employed for injection into the tissue. Such treatment makes it possible to abort an abscess similarly as it may be done through parenteral injection of protein substances. It is best to inject weak solutions (about 0.02 to 0.1 percent) through the healthy tissue into the center of the inflammatory infiltration. It is very probable that here acriflavine acts in the sense of Weichardt's "protoplasma activation." Without liquifying necrosed tissue, there is produced an intensive new-formation of inflammatory granulation tissue and the affected inguinal gland node soon retrogresses to its normal size and structure.

Passive Hyperemia

Since it is possible to influence an extensive inflammation by producing hyperemia, attempts have been made for a long time to bring about passive hyperemia by cupping or by means of suction treatment, according to Bier. Unfortunately, this therapy alone has not been able to register sufficient results. More recently, it has been abandoned, more or less, in view of the fact that the method is cumbersome in daily practice and requires much time. As a substitute for hyperemia, simple raying with the well-known therapeutic lamp (200 volt) may be employed. This lamp consisting mainly of an electric bulb with blue glass, it produces a sufficiently marked passive hyperemia.

Plan of Treatment

As a summary of what has been said, the method of treatment may be described briefly as follows:

First day. Intramuscular injection of 10 to 6 Cc. of milk protein and simultaneous painting of the affected lymphnode and the surrounding skin with an acriflavine solution of 1:2000.

Second day. Injection into the infiltration of about 2 Cc. of acriflavine solution, 0.1 to 0.2 percent in strength, painting the skin as the day before.

Third day. Injection of 5 Cc. of milk protein; painting the skin.

Fourth and fifth days. Injection of 1 to 2 Cc. of acriflavine 0.1 percent; painting the skin.

On each day, in addition, the region is rayed with the blue therapeutic lamp which is held at a distance of fifteen centimeters (5 inches). The treatment is continued at first for ten minutes and, later, the time is prolonged to twenty or twenty-five minutes.

If it is not possible in this manner to abort the abscess, the milk protein injections are repeated every second or third day and the purulent content of the abscess is aspirated with a large-caliber needle. If the pus is too thick, a small incision may be made. Then the abscess cavity is irrigated with acriflavine solution, 1:5000, or it is swabbed out and a tampon may be applied for one day.

In addition to this surgical treatment, it is well to administer further injections of milk protein, because these will stimulate the energetic formation of granulation tissue.

Literature

1. Mueller. Die myeloische Wirkung der Milchinjektion. *Med. Klin.* 1918.
2. Antoni. Die Aolanbehandlung des weichen Schankers und entzuendlicher Bubonen. *Muench. med. Woch.* 1919.
3. Langer. Klinische Erfahrungen mit Flavicid. *Deut. med. Woch.* 1920.

Memoirs of the World War

By GUSTAVUS M. BLECH, M. D., Chicago, Illinois.

[*Continued from January issue, p. 47*]

CHAPTER IX.

Demobilization

THE last patient was evacuated June 1. The nurses were ordered to a nearby camp preparatory to transportation home. To save the Government rental, I formally transferred the hospital to the French authorities on the last day of May. Orders came for us to go to the embarkation camp near Bordeaux, June 10. In the interval, we sent all scientific records and moneys of the hospital fund to the Chief Surgeon at Tours. All other records were being packed up in boxes to be taken to the United States.

Lt. Harold Morgan, our medical-supply officer, and a small detail began the huge task of checking and listing every article of equipment to be taken over by the French authorities, a job which would last fully six weeks. Instruments and other scientific articles were sent to our own depots.

The first step of demobilization, namely our stay in an embarkation camp as a preparatory measure, pleased neither officers nor men. We had demobilized thousands and thousands of patients, we had deloused them, paid, equipped and transported them to the steamers. All arrived in the United States in good condition. Not a complaint reached me. I was proud of that record as a "demobilizer," and I somehow felt that, to compel us to go through a mere routine, absolutely essential for troops from the front or from camps but one which we were perhaps better equipped to carry out than the embarkation officials, was almost tantamount to a doubt in our honesty and integrity.

I saw everybody concerned. All were agreed that I was right, and, for a while, it looked as if we were to do all the preparatory work right on our grounds and march direct to the boat—but, at the very last, some official balked and, embarkation camp it was.

June 10. Personal baggage of officers was sent away by trucks. The officers formed as a detachment, the enlisted men as a body on the left of the officers. Roll call revealed that none were absent. We marched away through a side gate into a side street, reached the town, crossed the river, and entered the road for camp.

A man in the uniform of a Knights of Columbus worker came up to me and informed me that at the end of the road my command could secure refreshments. I accepted the invitation with thanks. In front of an empty stable, a table was put up. Here, hot coffee, cakes, cigarettes, tobacco, pipes, chocolate, gum and "goodies" were handed out. The three K. C. workers toiled hard, the sweat pouring down their cheeks. I asked permission to have a few of my men relieve them; they accepted reluctantly. After all had been taken care of, we proceeded and reached the camp on schedule time. I remained long enough to see the men sent to barracks. They were to go through the "mill" (a bathing-delousing establishment) that very afternoon. The officers were placed in rough shacks, equipped with beds and straw sacks, the covering of which had not seen soap and water for many a day or week.

Farewells

I left for Bordeaux in an automobile which had been placed at my disposal, and, after much searching, found a small room in a second-class hotel. It was nevertheless much better and cleaner than the camp. I made daily trips to camp to sign the official papers, all of which were the very same routine with which we were thoroughly familiar. In Bordeaux, I visited headquarters and bade my friends farewell. I visited the French chief surgeon. He expressed his regret at my leaving so soon, for, if I could remain a little longer, he would have the joy of thumping my shoulders with his sword, as the French government had conferred upon me the Knighthood of the Legion of Honor. I thanked him for his kindness and expressed the promise that, when the cross would be pinned to my breast, in the States, I would think he was doing it. Adieu et au revoir!

Embarkation

June 13, the personnel of Base Hospital 208 and two or three minor organizations were formed and we marched five or six miles to the wharf. As we entered the huge hall adjoining the landing, a French military band was playing popular airs. There was also an American military band playing alternately with the French band. Of course, there was a program of rag time.

Officers and men, arranged in alphabetical order, passed by little booths, where they were checked, and boarded the Alfonso XIII, a little Spanish Transatlantic steamer. I had a

splendid cabin with two of my officers. The men's quarters were very good, too. The French band, now facing the boat, struck up the 'Star Spangled Banner.' Every hand came up in salute. The 'Marseillaise' followed, and again every hand on ship or wharf came up in salute. The program was over.

On board ship, were also fifty of our nurses, but I had no official relation to them any longer. There were some papers to be signed every day. Officers below the rank of major sent to my cabin their record books for a testimonial. The majority were recommended for promotion. In only one instance, did I have to state that the officer was not imbued with the proper spirit. I hesitated for some time; but, in official matters, one must assume an absolutely impersonal attitude. In my opinion, that man had a moral defect which made him untrustworthy. Perhaps, I should have said a weakness; but, it was a weakness which is dangerous in the army. The man could not always resist the temptation to deviate from the truth. As long as he lied about himself, oh, well—human vanity, I said to myself. But, an official lie, to me at least, is an incomprehensible thing.

Occupations on Board Ship

The monotony of even a pleasant ocean voyage has always been dreaded by me. Try as I might, to read and write, I did not succeed. There were some chess players on board, and they proved excellent diversion. Dances were arranged, but I am not fond of this form of amusement.

Colonel Coburn was on board, and he and I spent many a pleasant hour talking over several military problems. Under orders, all officers and enlisted men were to be inspected twice for disease and lice. The older and more dignified medical officers examined each other.

On board ship, were about fifty general prisoners. They afforded me an opportunity for psychologic study. I selected a few men who bore no earmarks of degeneracy (years ago, I studied Lombroso's doctrine) and talked with them. One man, in answer to my question what he was in for, said "murder."

"You do not mean to tell me you committed murder?"

"No, Colonel, my gun went off accidentally and there was a man in front of it—but they won't believe me."

Another was in for burglary. He, too, was not guilty, he had been merely drinking and followed another burglar subconsciously.

One fellow, a big husky specimen, was taken aside for a private talk.

"I want the truth—what are you in for?"

He did not understand my meaning and answered "Five years. I am to go to Leavenworth."

"What for?"

"I hit an officer?"

"Why did you hit him?"

"You would not understand me, Colonel. I am guilty, though."

"Yes, yes, tell me all about it. If you tell the truth, the absolute truth, I might be able to do something for you."

"Well, Colonel, I am human. The lieutenant called me vile names, abused me, threatened me again and again. I thought I would go insane. One day, he went at it again. I must have lost my reason. I deliberately gave him a terrific blow. He fell to the ground."

I had worse men than he to deal with. I often spoke to the men sharply. Sometimes, I would send them to my office. There, I made them sit down and we had talks on manhood, honor, discipline; and, unless a man was a habitual criminal, I always succeeded in making good soldiers out of them. I had a reputation of being a harsh man, until the individuals came to know me; then they would have gone through hell for me and with me. True, the soldier had no right to strike a nonentity in uniform, it was a serious, very serious offense under military law. I recollect, I sent a soldier to prison for telling an officer: "I'll obey no ——— of an officer or anybody else," for a long term. But, there had been no provocation on the part of the officer. It was merely a case of a rough character, who thought he could speak to his lieutenant as he probably had spoken to his foreman. We were then in the making of an army and, had we let that man go, we would have committed a serious offense ourselves—we would have done something to undermine discipline. Here was an entirely different case. It is the lieutenant who should have been punished. However, he was probably "showing off" at his station, still an "officer and gentleman."

Reaching New York

We reached New York Harbor on the afternoon of June 22nd. Army medical officers came on board and examined the casual officers, that is to say, those officers who traveled without troops. These would leave the ship when it docked, report at the port debarkation office, secure twenty-four hours' leave, and, after that, go to some post for duty, if they were regulars, or to some camp for final discharge. Or-

ganizations would be sent to Camp Merritt without stopping in New York. The boat would not proceed to the pier until the next forenoon. I looked at the coast. If I am not mistaken, I recognized Fort Hamilton. I could have reached it by swimming, but I had to content myself with beholding my country from the ship.

The next morning, a boat with the "Mayor's Reception Committee" came along side. A brass band entertained us with the patriotic air: "Nobody knows how dry I am." My friend, Captain Lesser, recognized on board his father and mother, and his eyes became moist. They threw newspapers at us. What a sensation to be able to read an American paper of today's events, not of what transpired three weeks ago!

We reached the pier about noon. The nurses left in a body for a rendezvous in New York. The casuals disappeared. My unit marched to the pier. Salvation Army workers came to us and handed out telegraph blanks for free delivery. I sent one to my wife. Finally, the order came to march. We went to the pier one flight below. Red Cross women handed us hot coffee, buns, ice-cream. Hesitatingly, I asked a young society woman, for such most of them appeared to be, for another cup of coffee. I could have as much as I liked. We marched to the ferry. On the way, representatives of benevolent societies handed out cigarettes, chocolate. The Jewish Welfare Board people had the sensible idea of distributing handkerchiefs. It was hot enough for that.

Again we crossed the river. There were few handkerchiefs waved at us from passing boats. Most passengers on the boats continued to read their newspapers and paid no attention to us. An officer standing near commented on the indifference of the people and compared it with the enthusiasm demonstrated when the troops first left for France.

"A fine subject for a cartoon to be entitled: 'Before and After'" was my reply.

The ferry arrived, and we disembarked. Base Hospital 208 led the procession under command of Captain Rapuzzi. Other, smaller organizations followed. My officers and I walked leisurely in a separate column. Suddenly, I noticed that the column of troops was broken. A traffic policeman had halted a section and allowed an endless number of motor vehicles to pass. Had he waited only a few minutes longer, the entire column would have passed the crossing. I motioned the policeman to come near me and told him that U. S. troops must not be halted except in an extreme emergency.

"All right, Captain; beg pardon!" he replied. It was a good thing my shoulders were not burdened with the single star of a brigadier general, for, that well-posted police officer would have "elevated" me to the rank of lieutenant.

Newspapers, magazines, folders of commercial houses had published again and again the meaning of our military insignia, and here was a man in public office who could not tell a major general from a sergeant. Perhaps it is the fault of the army that has adopted illogical insignia of rank, in this respect at least being as badly off as the English and Belgians. (The French have a simple arrangement of gold stripes. The Germans, three classes of shoulder knots for subaltern, field and general officers respectively. By the addition of stars, each class shows correspondingly higher rank.)

We reached our train and waited for some time to depart. The fireman had disappeared. Finally, we started and, an hour later, reached a small station near camp. A guide escorted us to camp. On the way, a woman appeared on the porch of her cottage and bade us welcome home.

Demobilization Paper Work

We were assigned to rooms in barracks. The amount of paper work demanded of us was enormous. All the work we had done in the embarkation camp at Bordeaux, the many lists we had prepared there counted for naught. Here it had to be done differently and all over again. The men were anxious to get to their homes. The clerks went to work pounding away at the typewriters with zeal and bitterness. Inwardly I was furious. We had been told so often that there were to be introduced new business methods, new simplified systems; but, instead, the paper work was quintupled, and here we certainly faced a useless burden; for, had there been a uniform system devised, we could have been spared all this work, since all necessary data about officers and men could have been prepared in France by adding a few carbon sheets.

I went to see some officers at headquarters. Some of my officers desired to remain in the service. One wanted to try for the regular army. In France, some had lived like lords. They had spent their money freely. Now they were broke and the future was uncertain. I had little sympathy with them, but I was still their commanding officer and I did all I could for them.

Close to the barracks, I noticed a grave. Why here? I looked at the tombstone. It read:

Here Lies
ALL HOPE
of Going Over Seas
Died November 11, 1918.
Erected by the Permanent Staff.

A minute ago, I wished all authorities with their lists and reports and other demands to a hot place; now I felt really sorry for them.

One of my officers visited the Base Hospital. He was shown around the few buildings. They asked him with pride what he thought of it.

"Well, don't let my Colonel see it," he replied.

"Why?" they asked in astonishment.

"He might take it along as a watch charm."

They felt annoyed, of course. He told them about our hospital in Bordeaux. They would not believe him. But, the next day, one of the officers recognized me and told me about the incident.

"Well," I replied, "Captain ——— is a joker. He knows that I have no watch chain."

Good humor was restored. They have a really fine hospital.

Our papers finished, the men again deloused, and the officers again examined for lice, we were sent to another section. Here new lists had to be made out. The officers, except my adjutant and detachment commander, were certified to as being no longer required for duty with the command. They were released and scattered to all four winds. The men were grouped according to residence. Under existing regulations, the commanding officer was to accompany the largest group. Fortunately for me, the majority of my men did not happen to come from California; otherwise, the prospect of a free journey to the Pacific Coast would have loomed as almost a certainty. It developed that, by adding an orderly, men from the east just topped a western group, so the worst was an order to go with it to Camp Dix.

We three officers and the largest group of soldiers went to the station. In the train, we found sandwiches provided. A Red Cross officer distributed cigars and cigarettes. We arrived at camp about 4 p.m. It was raining hard. The commander of the camp, a temporary brigadier-general, was at the shed and cautioned the officers to maintain discipline for the remaining few hours in service. One lieutenant stood like a statue throughout the speech; the rest, knowing that tomorrow they would have the red chevron of the "civilian" on their coat sleeves stood as they pleased.

Release

I went at once to headquarters. There were several formalities to be complied with. After all papers had been inspected, I asked to be released as commanding officer.

"Why, this is impossible."

"Why impossible?"

"Well, you are the commanding officer, are you not?"

"I understand, but you do not. I commanded a hospital with several hundred officers and thousands of men, but not a small group. I presume, if a regiment is broken up and the largest group amounts to about a platoon you will still hold the colonel instead of his adjutant?"

Finally, it dawned on the discharge officers that I was right. I was promised a formal release early the next morning; meanwhile I could consider myself as a casual. I was advised to go to a hotel, since the camp was primitive in equipment. An auto was secured and I drove five or six miles to a country hotel, which was really a first-class club house. A good dinner, a hot bath and a neat room and bed made a new man out of me.

The next morning, I reported for final travel orders. A telegram reached me from Major Stanton telling me that a young girl, on whom I looked as if she were my own daughter, was desperately ill and that a serious operation had been proposed. Every officer concerned rushed and I was enabled to catch an early local train for Philadelphia without having an opportunity to say farewell to Capts. Fochtmann and Rapuzzi, my adjutant and detachment commander respectively.

I reached Chicago in time to see the little friend alive. A day later, she died. . . .

Out of the Service

Again I am in mufti. I did not experience that mental unrest which was the fate of so many officers who suddenly found themselves retransformed as civilians. I had gone through that once before in my life.

Only the conditions of life, the inability to secure an office or a house annoyed me. But, after a few days' search, a place was secured and I am again at work looking after the ills of those who care to entrust their lives to me.

[*To be Concluded*]

Surgical Seminar

Conducted by GUSTAVUS M. BLECH, M. D.

Dr. Lightstone's Problem Again

IT would seem that Colonel Acheson, with true British tenacity, is not the one to give up without a strong fight. It will be recalled that, in a former communication to this department, he dismissed the case as one not allowing of a definite diagnosis. Now, that Dr. Lightstone has given us the diagnosis as appendicitis, Colonel Acheson surveys the battlefield, and here is his strategic and tactical critique of the situation:

"Referring again to Surgical Problem No. 4, I would say that your solution, given in the December Journal, and that of Dr. Crack, taken along with your comment on the case, contain all that one could reasonably expect to deduce from the meager data supplied; and all I have to add, is, that Dr. Lightstone made a darn lucky guess."

I am going to take the liberty of making a brief reply for Dr. Lightstone, as the time has been too short to submit Colonel Acheson's letter to him for comment. There is no doubt in my mind that Dr. Lightstone was very lucky in his diagnosis, but it also shows that he is a student of surgical literature, who digests what he reads. There undoubtedly was a coincidence of appendicitis and irregularly referred pain and, as I have alluded to before, there must have been something else, say, temperature, increased pulse and the like, to indicate a pathologic lesion of the vermiform appendix. These were not given us and we had no right to come to any other conclusion from the data as presented. [An instructive discussion of abdominal pain appears on p. 112.—Ed.]

In this connection, I desire to tell of a recent experience. A very young physician, recently from school, asked me on the phone to tell him whether it would be safe to operate on an elderly man who had a bubo very much inflamed and exceedingly painful.

My first impulse was, to tell him: "By all means open the bubo," for, to my mind, a picture of a suppurative adenitis was plainly visible—over the phone. By mere instinct, I hesitated and asked him to describe the swelling. He replied that it was very elastic, indicating fluctuation, oblong in shape, about the size of two eggs placed together lengthwise.

"I see no objection to your operating on him, provided you will know what to do if you find a foot or two of gangrenous bowel in the sac and abdomen," I answered.

"My God, doctor, you do not mean that the man has an incarcerated hernia?" the young fellow remarked in an excited manner. "That is exactly what I do mean. These old hernias have the nasty habit of becoming incarcerated." Needless to say, I was called in consultation and, after a simple examination and interrogation, made a diagnosis of—sarcoma. The inflamed condition was doubtless due to some irritant paste he had given him by some itinerant vendor of "cancer cures." The microscope confirmed the story.

Solution of Surgical Problem No. 6

Before discussing this problem, let me express my gratification at the number of replies received. As space in this department is about as precious as a pound of coal, I have selected the two best solutions. Again, Colonel Acheson carries off the palm, but he has a close rival in a colleague from Austin, Texas. As this is the first time that Dr. S. A. Woolsey has written a solution for us, I greet him heartily and invite him to come again. As will be seen, he is a fine thinker. Incidentally, he reminds me of the fact that, while in the military service, in 1916, I made the march with my field hospital from San Antonio to Austin. We were to rest there for three days. The very afternoon of my arrival, I began to suffer from chills, nausea, fever and prostration, and I was sent back to San Antonio with a diagnosis of dengue fever. A few days later, it was discovered that I had a vulgar malaria. In spite of this experience, I have a pleasant reminiscence of the town, with its fine schools, public buildings, but especially with its fine and hospitable inhabitants.

Recapitulation of the Problem.—You perform a hysterectomy for fibromyoma on a woman, aged 55, under general anesthesia, after a preliminary administration of morphine-atropine, at 10 a. m.

The patient is returned to the room in apparently good condition, with a pulse of 100.

At 7 p. m., the patient's condition is best indicated by the fact that the pulse has come

down to 90, with a temperature of 101° F. respiration 28, moist tongue and bright facial expression.

On the next morning visit, the condition is unchanged, but, at 4 in the afternoon, or about 29 hours after the completion of the operation, the patient's condition is not so satisfactory, the pulse having increased to 124, the respiration rate to 32, while the temperature went down to 99° F. The tongue is furred and somewhat dry at the edges. The patient appears restless. Palpation of the abdomen yields nothing abnormal.

Solution by Colonel Acheson.—In the study of this case, it is presumed that, before operation, the primæ viæ were cleared out and, therefore, an overloaded large bowel could not so soon give rise to any such train of symptoms. One may enumerate then as possible causes of the condition described: (1) hemorrhage, (2) shock, (3) traumatic or plastic peritonitis, and (4) sepsis.

Let us examine each of these factors in the inverse order in which I have stated them:

Sepsis. Septic infection after abdominal operation is usually marked by increased pulse-rate and rise of temperature, with a distressed facies; pain is complained of, the abdomen is tympanitic, and there is probably nausea and vomiting. In this case, on the second day, the temperature has fallen to 99, though the pulse and respiration have risen; and, though, in suppurative peritonitis, we may have a subnormal temperature, yet one would hardly expect it so early in the history. During the stage of invasion of the peritoneum by the septic organism, there is an initial rise of temperature, which afterwards falls as the general septic condition progresses. We are told, moreover, that abdominal palpation was negative, and we infer that there was no tympanites, nausea or vomiting. Therefore, I think we may exclude septic infection.

Plastic Peritonitis. It is open to discussion whether or not there is such a condition as postoperative traumatic peritonitis without infection, but many observers are of the opinion, that, for the first two or three days after an abdominal operation, the patient may exhibit many of the symptoms of peritonitis, although the results of careful bacteriologic examination are negative. The trauma incident to the operative technic sets up a plastic inflammation of greater or lesser intensity, depending on its degree and extent of tissue involved. When this is of greater severity than usual, the symptoms described above, as characteristic of septic peritonitis, are more or less in evidence, viz., elevated temperature (100 or 101), moderately rapid pulse but of good volume, nausea, vomiting, abdominal pain, tenderness and tympanites, increased respiration due to embarrassed movement of the diaphragm, but the patient has not the facial expression of the septic type, and, in a couple of days or so, the untoward symptoms disappear. The case in question does not quite fit this description in all respects; so, I think that peritonitis may be ruled out.

Shock. We might be inclined from the history of this patient to anticipate the occurrence of shock. We are told, she has suffered for some time from metrorrhagia. Therefore, she was probably in a weakened condition and anemic. She seems, however, to have rallied well from the effects of the operation and to have progressed favorably for 24 hours. But, what about late shock? Such a condition may be due to nervous depression from previous physical exhaustion, or to psychic depression; this woman was afraid that she had cancer, and this idea may have had a profoundly depressing effect on her nervous system. Yet, I scarcely believe that her symptoms are to be explained on the theory of shock.

Hemorrhage. We come now to the consideration of secondary hæmorrhage as the cause of her unsatisfactory symptoms. This, if I exclude sepsis, is one of the commonest complications that follow abdominal operations, although a careful technic should practically eliminate it entirely. What are its symptoms? There is sudden rise of the pulse rate with decreased volume, the temperature falls and may become subnormal, the respirations are quickened, more or less labored, and shallow, the countenance assumes a distressed look with increasing pallor, the skin becomes clammy and cold, there is abdominal pain, sometimes vomiting, considerable restlessness. Many of these symptoms are common to shock; but, in the latter, they come on more gradually, while in hemorrhage there is usually a sudden fall of temperature with an increased pulse-rate. The case under discussion does not perhaps present all the required symptoms, but I think that there are enough present to warrant a diagnosis of Secondary Hemorrhage.

Treatment.—Having made our diagnosis, no time should be lost in taking measures to stop bleeding and restore the normal intravascular pressure by infusion of blood or normal saline solution. The operation wound should be reopened at once, the effused blood rapidly cleared out and search made for the bleeding vessel, in this case probably to be found in the cervical stump. It is unnecessary to detail

the further steps of the operation and after-treatment.

Solution by Dr. S. A. Woolsey

In trying to come to a conclusion relative to Surgical Problem No. 6, published in the December (1922) issue, four possible conditions present themselves to my mind, namely: volvulus, followed by gangrene of the gut, bronchopneumonia, suppression of urine (acute nephritis), and secondary hemorrhage.

It seems to me, however, that palpation of the abdomen would certainly have discovered a tumor if there had been volvulus. Nothing was mentioned about the patient having voided urine; so, it may be presumed that any irregularity of the urinary function would have been noted.

The rapid respiration is suggestive of pneumonia but, as no thoracic findings are given, this can be ruled out.

The rapid pulse, rapid respiration, restlessness and changed aspect of the patient, together with dry, furred tongue, the age of the patient, together with the history of bleeding previous to the operation, would make me think seriously of secondary hemorrhage, possibly continued oozing at the site of operation. The sudden drop in the temperature would indicate a rather free hemorrhage.

Therapy.—In the absence of pneumonia and nephritis, I would reopen the abdomen, tie off any bleeders or pack oozing surface with gauze. Hypodermoclyses and proctoclyses of normal saline solution; atropine, small doses repeated often and to physiological effect, heart stimulants p. r. n.

Comment

It is gratifying to have two such brilliant discussions to comment on. There are a few others that have come in, and which I should have published, were it not that space is so valuable that I can select only the very best.

In this respect, I may be pardoned for my gratification also from another point of view. Ever since this department was inaugurated, I had hoped to see it bear some fruit, and this is the first issue which has given me complete satisfaction. An acquaintance recently commented on this work and hinted to me that I had it easy, that all I had to do was, to select a case from my practice, *et voilà*. If this were so, my work would be a clinical department and not a seminar, and, if any one thinks that the enormous salary paid me by the Journal is not earned, let him try to submit cases. A few know already what I mean.

All this was said to bring out the point that I, personally, do not care a rap whether Colonel Acheson and Dr. Woolsey have sent in the correct diagnosis or not—it is the manner in which they thought it out that counts; for, one can readily see that a patient in their hands would receive scientific and, therefore, rational care.

If I had been a contributor to, and not editor of, this department, I should have begun a rather personal solution, something like this:

Dear Editor: You and your case give me the jimjams. Here I am snugly retired in my den for an hour's relaxation, and you have nothing better to think of than to give me nervous prostration. It is one thing to read about surgical problems and quite another to walk into the sick room and find that a job, you think you have done *lege artis*, with all the technical refinements and circumspection, is likely to be the cause of shattering your reputation as a surgeon, at least with the patient's family and friends.

You go, in your mind, through the whole operation. You recall that the entire procedure lasted only forty-two minutes or so, therefore the anesthesia, which was carefully administered, could not be blamed; you also recall that you hardly exposed the intestine but surrounded the uterus with a wall of moist warm gauze; you recall that you paid particular attention to every ligature, to every raw surface; you even closed the wound without drainage as the best procedure to prevent infection; and, now, as you stand there, you almost wish you had a gauze strip leading from under the dressing to the bottom of the wound; for, then, you would now know whether or not you have to deal with a secondary hemorrhage. Is it a hemorrhage? Could Colonel Acheson and Dr. Woolsey and fourteen other readers, who have sent in the same diagnosis, really diagnose a secondary hemorrhage on the data as given or on the patient as she appeared at the moment of observation? And would they really rush her to the operating room immediately, on the strength of such a diagnosis?

I shall not take up your time with a repetition of the pros and cons for diagnosing secondary hemorrhage. That has been done very ably already, and those of us who are not blessed with a retentive memory can step to the bookcase and satiate themselves with idle discussions. I say *idle* advisedly, for at precisely the moment we see the patient, we are simply up against it, and that is the reason why the case has been selected. For, at six or seven o'clock, there will no longer be any uncertainty and, of course, the case will become uninteresting for our little or big family circle, all depending on how many of the subscribers read this department systematically.

Now, I, too, would at that time rule out one by one peritonitis in any form and infection, and, as for secondary shock or late shock, as some call it, I, for one, would not even give it a thought. In my humble opinion, there is "no such an animal," and, if any one can believe that a patient is leaving the operating table in good shape and stay in good shape for over twenty-four hours and suddenly show the frightening and frightful symptoms of shock without there being a foudroyant infection of the most virulent type or a serious hemorrhage, he is welcome to that belief. But, I cannot and never will sit in the same lodge with him; for, we have not agreed for thirty years past and it is not likely that I shall become converted after years of thinking on rational and naturalistic lines.

There is one thing that has not been mentioned and that must be briefly alluded to, and that is—thrombosis. I am well aware of the fact that every wound in which bloodvessels have been severed heals through thrombosis, and this process, which is known to us as a purely natural result of surgical intervention of some magnitude, produces no perceptible symptoms whatever. But, when we note *an increasing pulse rate with a temperature within normal variations* (and that is what a temperature of 99° F. amounts to), one should think of *progressive thrombosis,* a disquieting affair, since, when the diagnosis becomes certain through embolism, we shall confront a calamity against which we are helpless!

All this represents one of the most interesting problems of surgery and, later on, when I have my war memoirs out of the way, I shall continue a series of articles on the care of surgical patients, and discuss this phenomenon and its prevention in extenso.

And, so, when I stand before a patient betraying only symptoms deviating sufficiently from the normal progress of convalescence to cause us some anxiety without definiteness, I can think only of a very mild secondary hemorrhage—probably only the accumulated effect of slow oozing—and, of progressive thrombosis. This is my estimate of the situation.

Now, as to the therapy. On the assumption that it might be a progressive oozing likely to stop and become absorbed, active intervention is not indicated just at that moment. On the other presumption, that we are confronting a progressive thrombosis and not a mere disturbance through resorption (for, then, we would have increase of temperature, pain and perhaps, reflex phenomena (vomiting), a small dose of morphine (¼ grain) is the best treatment I know of. I should give that. One more thing I should do if this happened in a hospital that is not maintaining a rule to keep one operating room in readiness for reopening the abdomen: I should give an order to have everything ready for a life-saving laparotomy with all that it implies; heat, warm-normal saline solution, sponges and infusion, stimulants, etc., etc. One thing I should *not* do, and that is, to leave the patient out of my sight for the next few hours. After all, there may be a stoppage of the flow, and the extravasated blood may become resorbed and the storm—threatening though it appeared to be—may calm down again, or the feared embolism may not take place because of an erroneous diagnosis or through caprice of the thrombi, influenced somewhat by the morphine. Pages could be filled with the preventive treatment of these and similar complications. It is good to have an easy mind on that score.

Surgical Problem No. 8

The following problem is doubtless the most difficult yet presented in this department. Nevertheless, it is believed to be one of great practical interest. While it must be admitted that this class of cases is rare and of a gravity which would cause even an experienced general surgeon to seek counsel, it is hoped that many readers will be interested enough to make a diagnosis and give their reasons therefore, this problem representing a purely diagnostic exercise of disease of the brain.

The patient is a boy, fifteen years old. He has parents who are living and in good health. He has one brother living, in good health. Two sisters died in infancy of a cause which can not be elicited. The parents are immigrants, Lithuanians, of fairly good intelligence. The mother states that the child has been in good health up to his fifth year. He had then, to judge from her description, either influenza or pneumonia. Since then, she noticed that he was not strong, that he could not walk as well as before and also that he frequently complained of severe headaches. This went on for about two years. The village physician had given some medicine and had advised him to go to a large city to enable the patient to receive scientific care, but they lacked then the means. About that time, everybody noticed that the head was becoming large and larger in size.

The subsequent story, elicited on inquiry, shows that his parents emigrated to America about eight years ago. While in New York, a spinal puncture was proposed by a physician

in some "very large hospital," but refused by the mother. Later, the child could not walk at all and had to remain in bed or propped up on a chair. A priest came often to the house and gave him some instruction. In intelligence, he appeared to be the same as his brother who is his senior by a little over a year. On the advice of the priest, the patient is brought to the hospital from the country, for diagnosis.

Examination shows that, in spite of the rather miserable condition, the boy is well developed. He looks pale and lean. Osseous system well developed. Temperature, 98.4° F. Hydrocephalic head of enormous size. Sutures and fontanelles can not be mapped out.

Left arm flexed in the wrist joint, weak and thinner than the right. Both feet are in pronation. The right side of the face is less developed than the left. Pupils equal. The boy has difficulty in pushing the tongue to the left. There is horizontal nystagmus, eyes can be moved with ease, but the patient has some difficulty in turning his head to the left.

The muscles of the small fingers are atrophic on both sides, apparently more so on the left, and slow reaction of degeneration. Motions of the arms poor, the left one worse. The muscles of the legs are spastic, especially so on the left limb, rendering standing and walking impossible. Sensibility is normal. Patient has good control of the bladder and anus. Patellar reflexes are exaggerated on both sides, though more pronounced on the left. Ankle clonus and Babinski reflex present. Pupils react slowly. Patient can not see figures at a few inches distant, but can differentiate between light and darkness.

Spinal puncture shows 230 mm. pressure. A little over an ounce of spinal fluid is obtained. Patient vomits and cries out from headaches. Pulse rapid and easily compressible.

Two days later, spinal puncture is repeated, less than an ounce being slowly obtained, with the same violent reaction which lasts for two days. The violent headaches continue. Why this intense reaction? Why so little spinal fluid on puncture?

NOTE: The case was operated on later on an erroneous diagnosis. An opportunity is afforded our readers to send in their views. Instead of a comment, the details of further observation, including post-mortem findings will be given.

Pass the Flowers, Please!

WHEN I cash in, and this poor race is run,
My chores performed, and all my errands done,
Perhaps some folks who mock my efforts here
Will, weeping, bend above my lowly bier—
And bring large garlands worth three bucks a throw,
And paw the ground in ecstasy of woe—
And friends will wear crepe bow-knots on their tiles,
While I look down (or up) a million miles,
And wonder why those people never knew
How square I was before my spirit flew.

WHEN I cash in, I shall not care a yen
For all the praise that's heaped upon me then;
Serene and silent in my narrow box,
I shall not heed the praises or the knocks;
And all the pomp and all the vain display
Will be just fuss and feathers thrown away.
So, tell me now, while I am on the earth,
Your estimate of what my friendship's worth—
Oh, tell me what a loyal chap I am
And fill me full of taffy and of jam,
Spread it on good, like honey's spread on bread—
Don't wait to shoot the bunk when I am dead.

—*Exchange.*

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE, M.D.

Was It Telepathy?

TELEPATHY is defined by the Standard Dictionary as, "The supposed communication of one mind with another at a distance, without the use of any means known to physical or psychological science."

Unfortunately, this definition does not throw any light upon the nature of the forces involved and, so far as I know, little progress has been made in the investigation of the subject. About all that we know is, that there is such a thing. I have had communicated to me a few experiences by people of undoubted veracity.

I should be glad to have any of my readers who have had experience along this line to write me, reporting their cases in detail, always providing that the experience was personal, under their own observation, and not merely heard of. Second-hand evidence loses much of its force and value. To quote quaint old Gilbert White, of Selborne: "There is such a propensity in mankind towards deceiving and being deceived, that one cannot safely relate anything from common report, especially in print, without expressing some degree of doubt and suspicion."

An Authenticated Case of Telepathy

Of such cases occurring under my own observation, the most clear-cut and striking was one that happened about thirty-five years ago.

I had at that time a family by the name of G., consisting of husband, wife and three children. Mr. G. was a commercial traveler and naturally spent a good part of his time on the road. They were people of the kind that doctors like to have, giving their fullest confidence to their family physician, and as a family they were thoroughly devoted to each other.

One morning, Mr. G. left home with the intention of spending a good part of the forenoon at the wholesale house of his employer, preparing the samples which he was to take with him when he should take the train about noon for a three weeks' trip. In those days, telephones were not as plentiful as they are now, and very few private families had one in the house, except the rich. So, when Mr. G. left the house in the morning, he took leave of his family, not expecting to hold communication with them any more that day.

Between ten and eleven o'clock that forenoon, I was summoned to the G. home by an urgent message. I found Mrs. G., who had been perfectly well when her husband left home that morning, in a very serious condition. She was about three months pregnant, and had been suddenly seized with severe hemorrhage and the other symptoms of a miscarriage. She was so completely exsanguinated that it was only with the greatest difficulty that I was able to save her life. Finally, after two hours of anxious effort, I was rewarded by signs of rallying, and the greatest danger seemed to be over. However, her condition was still critical enough to make me hesitate to leave her; so I decided to remain a while to make certain that the improvement was permanent. I sat down at the front window to read while I waited. After a time, I heard the front gate clang and, looking out, I saw Mr. G. hurrying up the walk carrying his sample case. I opened the door for him, and his first words were: "I knew there was something wrong! What is it?"

He told me that, during the forenoon, while he was getting things ready for his trip, he had an uneasy feeling that something was wrong at home. This feeling grew more intense and, shortly before he was ready to start for the station, it seemed as if his wife's voice pronounced in his ears the words: "Come home!" Greatly disturbed in mind, he was inclined to ask his employer for leave to postpone his trip until he could go home. But, as he felt he could give no reason for such a request that would not be laughed at, he said nothing and started for the train. But, before he got to the station, the impression became so strong that he simply turned about and took a car for home.

It is interesting to relate that I checked up on the time very carefully with him, and found that the time when he thought he heard his

wife's voice coincided exactly with the time when she lay unconscious and I was in doubt whether death had not actually occurred, so completely did animation seem to be suspended.

Now, such occurrences are not very rare. Many cases more or less similar have been reported by persons of reliability. It is pretty generally conceded by scientific men that telepathy is a reality; but, when we come to consider the *modus operandi*, we at once find a wide divergence of opinion.

As to the attitude that people take towards reports of telepathic happenings, we may say that there are about three classes of persons.

One group pooh-pooh the whole thing, apparently regarding those who report the cases as either fools or liars. To such, the seeker after truth need give no attention. Evidence means nothing to them. Mental honesty is a quality that they are incapable of understanding.

Another class there is that go to the opposite extreme. They swallow eagerly everything of the sort that they hear of, regardless of whether the reports are reliable or not, and reports are even exaggerated by them as they pass them along. They understand the thing perfectly (so they claim), and can tell you just what to call it—whether spiritualism, Swedenborgianism, telepathy, autosuggestion or what not. They completely ignore the fact that scientific truth is not arrived at by jumping at conclusions but by applying to alleged truth the merciless logic of facts.

In the third or middle class between these two extremes, are found the only ones to whom we can look for help in solving the problem truthfully, that is, scientifically; for, science and truth are identical. The only way to make any real progress in such a matter is, to collect all the reliable evidence possible, and then draw therefrom such conclusions as the facts warrant.

Hypnotic Suggestion

THERE is another subject that in some respects seems as if it might be more or less related to the one referred to. I mean that which has gone under the various names of magnetism, mesmerism, hypnotism, and suggestion. In this field, considerable progress has been made along scientific lines, so that suggestion has been used for therapeutic purposes with a degree of success. The curse of all such means is, that quacks and impostors make use of them to extract money from the credulous, and thus bring the whole matter into disrepute. But, excluding the work of all such impostors, there remains a residue of cases that are scientific and reliable, being attested by persons of unquestioned veracity.

As an example, I may quote an instance which came under my own notice, and which I can vouch for in every detail.

There is living in this city, today, a physician whom I will call Dr. C. I have known the family intimately for over forty years, and every one who knows them would take their word on any subject. For many years, Mrs. C. was a great sufferer from facial neuralgia. Most of the attacks were so intensely painful that nothing milder than morphine would render them bearable. I have myself been called to administer a hypodermic, when an attack came on during Dr. C.'s absence from the city. They were very anxious regarding the danger of establishing the narcotic habit, but the suffering was so intolerable that there seemed to be no way of avoiding the occasional use of the drug. Some eighteen or twenty years ago, Dr. B., a well-known physician of this city, who had made a scientific study of hypnotic suggestion, undertook to see whether it would be of any use in the case of Mrs. C. Her husband was sceptical regarding the matter, but the case had been so baffling that he was ready to try anything that promised even a faint hope of relief.

Dr. B. put the patient into a hypnotic sleep and used suggestion. A considerable amount of relief was in evidence after the first treatment and, after several (I have forgotten the exact number), the cure was complete. Mrs. C. has now been free from her old enemy for nearly twenty years.

Dr. B. informs me that there is a great difference in cases; that some resist all efforts at cure, some are partially relieved, and others are completely cured.

Another physician of my acquaintance, who is now deceased, told me that he had made use of the hypnotic sleep quite extensively in obstetrics. He said that, in a large proportion of cases, he had succeeded in bringing about painless delivery, and in other cases partially so. He claimed that he had found no individuals who could not be hypnotised. [The Editor's brother, a dentist, operated on his wife painlessly while she was in hypnotic sleep. During her confinement, though, the method was only partially successful.—Ed.]

Perhaps the most important question relating to the therapeutic use of hypnotism and suggestion is, whether any one can learn to use it. Has everybody the power, if he will exercise

and develop it, of putting another person into a state of hypnosis? I do not think so, from all I have been able to gather. And there is another thing that restrains many from experimenting with it. Cases have been reported where some novice has experimented on his own account, has succeeded in hypnotizing a subject, and then has found that he was unable to awaken him until he called in the assistance of an expert. It is always a mistake to tamper with a matter that one does not understand. Any one desirous of making a sincere study of hypnotism should take instruction from a recognized authority on the subject, in whose presence all experiments should at first be made.

As to whether there are persons who cannot be hypnotized against their will, I should be inclined to say that there are very few, if any. I have seen a number of instances where an individual stoutly asserted that he would like to see somebody hypnotize him, and yet he was conquered, and his first realization of his defeat came when he awoke to hear the laughter of the spectators who had been amused by his absurd actions while under the hypnotic influence.

On the other hand, I have heard professional hypnotists admit that they had met persons who had resisted their efforts successfully; at the same time, they expressed the belief that "at another time under different conditions" they might have succeeded.

What of Coué?

AND, now, a new star has arisen whose light, let us hope, may illumine some of the dark recesses of the subject. Professor Emile Coué, of Nancy, France, asks the world to look at the work he has accomplished along the line of autosuggestion as a means of alleviating ills of mankind. He claims to have given health to great numbers of people sick with various diseases, and his claims are substantiated by hundreds who have apparently been restored to health. Of course, we all know that the practitioners of every cult make similar claims and produce similar proofs, and the real question for investigation is, whether or not the professor and his patients are self-deceived.

Some of his statements sound like the effusions of an enthusiast who dwells unduly upon successes and ignores failures. But, that should not prejudice us. That happens every time a new and successful treatment is discovered. Either the discoverer or some one else grows more sanguine than the facts justify, and the first enthusiasm has to be modified by experience. If time shows that Coué's statements are true and, above all, if others can make use of his methods successfully, we need not attach too much importance to our first impressions. If the thing is a delusion, time will soon show it.

We already see the foolish spectacle of members of the medical profession rushing into print, condemning and ridiculing the whole matter without investigating the evidence. Such snap judgment brings the profession into disrepute by giving the laity grounds for charging us with bigotry, a charge which, unfortunately, is sometimes only too well founded. There is no bigotry so obstinate as that of some pseudo-scientific men—men who have never learned that the first characteristic of a scientific man is openmindedness.

I have seen the statements of some of those who have attacked Coué, and their arguments, boiled down, amount to this: "The thing is impossible because the diagnosis is worthless." Truly, a fine piece of reasoning to come from a supposedly scientific man! When a sick man gets relief from suffering, he cares little whether the diagnosis was correct or not.

Professor Coué's method is very simple. It is merely suggestion as we have known it before, applied in such a manner as to induce autosuggestion on the patient's part. Twice a day, morning and evening the patient is to put himself into a position of physical and mental calm (lying in bed is a good place). Then he is to repeat slowly and in a low voice, twenty times, the formula: "Day by day, in every way, I am growing better and better." This is not to be accompanied by any effort of the will; on the contrary, the attitude should be perfectly passive. The professor claims that this repetition of the formula reacts upon the subconscious, or unconscious mind (the imagination), which, he asserts, controls bodily conditions of health and disease. I quote: "The imagination dominates the will."

"Autosuggestion means implanting an idea in one's self through one's self."

"All our lives, we have been autosuggesting *unconsciously;* what we need to learn is, to autosuggest *consciously.*"

"Please understand that autosuggestion is nothing else but hypnotism, as I comprehend it, and may be defined in simple words as the influence of the imagination on the moral and physical being of man."

Coué's formula, "Day by day, in every way, I am growing better and better" has become a

sort of semihumorous byword, the butt of newspaper jokes; and it does rather strike one at first sight as an absurdity—too simple to be taken seriously. But, on careful consideration, we may find in it after all a ray of truth confirmed by our own experience. It is possible that Coué has in his enthusiasm gone farther than the facts warrant; but there certainly is such a thing as autosuggestion, and our own experience contains abundant proof of it if we stop to reflect. We can and do influence our daily lives by means of it, although we may do it unconsciously. Every election campaign furnishes abundant illustrations. People imagine that they decide by their reason how to vote. A small proportion perhaps do; but with the great majority it is a matter of suggestion and autosuggestion.

It is a subject that I have studied for years, and I am convinced that, the larger the role played by the nervous system in a given disease, the more we can accomplish by autosuggestion. It seems probable that there are many diseases that could be influenced very little by it; but Coué's reports of cases seem to point to a different conclusion. However, time will gradually clear up the matter. To the sincere seeker after truth, there is food for reflection in some of the results obtained by Christian Science and some of the other cults, and especially in the occurrences at the shrine of Ste. Anne de Beaupré, in Quebec, and at that of Lourdes, in France.

Practiced by Physicians

Autosuggestion is usually initiated by suggestion from others, and then continued by ourselves. All successful physicians make use of it, often unconsciously; and, generally speaking, it is true that, the more the physician uses it, the more successful and popular he is.

I have in mind a striking example. I knew a certain doctor whose skill was only mediocre, but he had an enormous practice in spite of that fact. He gave great attention to his personal appearance and to his bearing towards his patients. He received each patient as if that particular individual were his special friend, listened courteously and even enthusiastically to the recital of his ills, and made him feel that here was a doctor who understood his case and could do for him what no one else could. And all this was done so tactfully that there was no coarse boasting of special skill, no belittling of other physicians—simply the impression of sympathy, skill, and friendship. The doctor began it with suggestion of the most skillful type, and the patient carried on with autosuggestion.

We all know the jolly, cheerful doctor who breezes into the sickroom, speaks hopefully and encouragingly of the patient's progress, making much of the favorable symptoms and as little as possible of the unfavorable ones. When he goes away, he leaves the patient in a better and more hopeful frame of mind. I do not mean to say that a case of pneumonia or typhoid fever can be cured by cheering up the patient, but I do believe that, other things being equal, the patient with a cheery doctor has a better chance than the one with a doctor with a long face. We influence other people by unconscious suggestion and are influenced by them. It is quite possible that, if we were to cultivate conscious, intentional suggestion more, we might greatly increase our power for good, and perhaps hold some of the patients who now go to the irregulars. There is no doubt whatever about it that many of the cures wrought by the cults are accomplished by suggestion. Why cannot we do as much?

There is often suggestion in the way a doctor talks to his patient. Dr. A. perhaps makes a perfunctory examination and says: "I think you are beginning with pneumonia. It may be only a heavy cold, but it looks suspicious. We will try so and so and it might be a good plan to apply so and so."

Dr. B. expresses no opinion until he has made a very thorough examination. Then he says decisively: "You are beginning with pneumonia. Here is your prescription. Take it exactly according to directions. Apply so and so to the chest for so long. Take no food except what I order. You will soon feel better."

Dr. A.'s uncertain and hesitating manner has one kind of effect on the patient; Dr. B.'s thorough examination, and his decisive way of expressing his opinion, and giving directions, have the opposite effect, and inspire confidence. Both are using suggestion, but of opposite kinds, and perhaps unintentionally. How much more effective we could all make our work if we only remembered to do so!

2920 Warren Ave.

Exchange your 1918 War Savings Stamps for 4% Treasury Savings Certificates at Your Bank or Post-Office, Now.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER, M. D.

It Won't Be the Same in a Hundred Years!

IT has recently been my lot to read a multiplicity of articles upon "How to Attain Longevity," "Reaching the Hundred-Year Mark," etc., etc. Just why any rational individual should ardently yearn to live to be a centenarian I, personally, don't know. From what I have observed, I am perfectly willing to be "filed" long before then. Still, there *are* dear old souls of from eighty-five to ninety who like this earth well enough to hang on—possibly in the hope that the next improvement in Radio will enable them to hear and see all that is going on in the village, town or county in which they dwell, without having to get up and go after it. Most of these very old settlers do *not* "get up and go after" things to any extent. Why should they? They've been "getting it"—one way or another—ever since they were born, and they deserve a rest. Some of them get just that and some don't—at least till they have parted with whatever they managed to accumulate while they were "getting theirs." Then, as a rule, they are permitted by those near and dear* to them to keep perfectly quiet. In fact, they are urged to!

Why, under such circumstances, yearn to sojourn further in this Vale of Tears? To solve this mystery and to get an idea what things really will be like, a hundred years from now, I went "crystal gazing," and, if you were to see what *I* saw, you'd be perfectly willing to "go hence" some time within the next two or three decades, the exact date of departure, of course, depending upon your present degree of maturity.

The Gift of Foresight

To explain *why* I should and *how* I *could* go "crystal gazing" in this day, demands a few explanatory paragraphs. First of all, let me state distinctly that, from early childhood, I had an almost uncannily keen sense of what was going to happen. Indeed, upon very many occasions, I knew not only what was going to happen but just what part of my anatomy something was going to happen to. At the early age of five, for instance, I knew when I saw an Eton collar and round-about coat laid out on my bed that I was going to be dragged five miles to church the next morning—or suffer untold tortures eating seed-cake (they don't make it any more) in the domicile of some very precise aunt or similarly dreadful personage. I knew perfectly well, at eight, that, if I got caught putting rhubarb jam on cookies (cakes, we called 'em then) and cream on top of that, I'd have to go to bed. My judgment on this point was infallible—so, I seldom got caught. I thus learned early that there is nothing like foresight. The thing was, to develop this faculty and use the knowledge so gained to prevent distinctly disagreeable (often painful) things from happening.

Crystal Gazing and Crystals

Through life, therefore, I have made it a point to adhere more or less closely to this plan and the results have been—at times—distinctly satisfactory. That is to say, I have (in the dim and distant past) "gazed into the crystal" just often enough to see things and, when I did this, I kept my eyes peeled going home and, if I saw trouble coming, would slip down a side street. Usually, "trouble" took the form of a stout man with an absurd hat on and swinging a club in his hand. I often congratulate myself that he and I never became intimately entangled. There have, of course, been failures in my method, but "we will e'en let lying dogs sleep," as Burns so beautifully remarks. Perhaps, for the guidance of those who now need (or will need) the assistance of an experienced traveller, I might state that foresight is Not to be depended upon by a male if there is a female in it. And vice versa.

*Synonym for expensive.

For instance, if you've gazed into the crystal eyes of Edith Eileen and gone away convinced that you're her'n and she's your'n forever, you are apt, even within the week, to get a severe shock. Edith Eileen may marry a freckled-faced baker and, some day, a Mary Elizabeth may tell *you* where you can hang your extra suit. Yes, *hind*sight is the only dependable thing when you're dealing with the "infernal (I *think* that ought to be internal?) feminine." And even that doesn't do you much good. Unless, of course, you take a gruesome interest in surveying the spots where you fell. Personally, I don't admire that kind of scenery.

I have, I trust, made it plain that *some* crystal orbs should be gazed into with extreme caution, and it is often well for the gazer to wear smoked goggles. They may be an encumbrance and obscure the view, but—well, they may save him from a heap of encumbrances later.

The crystal to gaze into, if you would really see things, has a conventional shape and, heretofore, has been easily filled with a translucent, reddish, nut-brown or golden fluid, as the observer preferred. To some eyes, a red or purple proved most desirable, while others again required a sparkling effect—their visions floating up, so to speak, from the bottom of the crystals on millions of minute bubbles. Using such a medium, however, the visions were apt to be too numerous and wonderful to make a lasting impression—indeed, they were frequently forgotten within twenty-four hours, their departure being accompanied by a very severe cephalalgia, the latter being due, doubtless, to overstimulation of the optic nerve. What?

Today, unfortunately, it is becoming extremely difficult to obtain a really dependable filling-medium. *Crystals* there are in abundance; but, empty, they will not work satisfactorily. However, as is well known, the Scotch are particularly gifted with foresight ("second sight" it is often termed, though I never knew a true Scot who needed more than *one* look) and I happen to have a friend who hails from Glenlivet and whose name is Haig. To him I went and confided my desire to gaze once more in a real crystal and see what was likely to be doing on this poor old hard-tried earth a hundred years from now. "Hoot mon," says he, "what the de'il d' ye care! Why fash your brain aboot sic a thing when your ain sel' will be amang the speeruts?" "Merely a scientific inquisitiveness on my part," I answered, "together with a desire to warn those who are coming along, of what they may expect. Let's look into the future if you have the medium." And, after deep and long gazing, this is what I saw. (*People of particularly nervous or "susceptible to suggestion" temperaments are advised to stop here.*)

A Hundred Years From Now

The first thing that took form in the crystal was a book, open at the title page. Thereon I read:

THE UNITED STATE IN AMERICA

As observed by Umskilly Roundmouthus, Baa. Maa., Doc. Soc., D.D.D., L.L.L., Fellow of the United Fijian Fudge-Budge, Member (ex-officio) of the National Society for the Preservation of Personality, and Recording Secretary of the Institute of Infantile Investigation, etc., etc.

Published as an Authoritative Observation
by
The University of Upsadasy, Umpqumpqua, Fiji Islands.
2024.

The pages passed slowly before my eyes and I learned with extreme surprise that, by about 1970, the Fijians were leading the intellectuals of the world. To accomplish this, they had been compelled to eat a very large number of peoples who had disagreed with them, but had found the citizens of these United States too tough to tackle. Therefore, they studied them by stealth and revealed their peculiarities, which were many. Roundmouthus had been particularly impressed, it was obvious, by the (to him) extremely bizarre manner in which the race was perpetuated here, and dwelt at some length, both on the somewhat earlier and the up-to-the-minute marital relation—"if indeed," he remarks, "it may be so termed."

"The Women of America," he states, "have, for nearly a century, been asserting their rights to be considered the superior, indeed, the *essential* sex, and it has irked them enormously not to have been able to discover a satisfactory substitute for the male. Up to the present moment, however (2023), their most skillful Scientettes have been unable to find any method which will permit them to—as they peculiarly express it—'go it alone.' For this reason, the National Seniles (sitting as a body) enacted a law, in the year 2001, that all males should be divided into two great classes: Mans and Mannies. The first are specially selected by the Committee of Continuance at a very early age and, from that time on, live a life of extraordinary ease and are greatly admired and feared by the Mannies. The latter creatures undergo at the fifth year a series of anatomical alterations which make them extremely docile and obedient workers and, it must be said for the Ma's (for so the adult females are called) of America,

that they know how to get the most work out of a given number of these poor creatures.

The Indispensable Male

"Up to the time that they attain their eighteenth year, the Mans are wards of the nation and are allowed to live a carefree, well-fed existence in the two states of Rhode Island and Michigan. They are known thereafter as "Rhode Island Reds" and "Ganders" and there is sharp competition between these varieties, later, when they are brought to assume their positions as Progenitors in the Community Centers throughout the country. Until this period arrives, the Mans are not allowed to see a Ma or Mamette—even of the most tender age. In fact, the two 'Separate States,' as they are called, are entered by females only when the Committee of Continuance (to be a member, one must have passed the sixtieth year and borne at least two female children for the Commonwealth) pass in to select and take away for marital purposes a herd of Mans. All the work here, as elsewhere, is performed by the Mannies and, if one may believe them, a very uncomfortable time they have of it with their charges.

"At or about the eighteenth year, the Mans are, as stated, carefully examined for gross physical and temperamental defects and those who pass inspection are taken to some one of the extremely numerous Community Centers. Here they are again gone over by the Doctorines and Eugenic Expertettes, who assure themselves that each and every Mans has had his tonsils, teeth and appendix removed. They are then given a short but intensive course in Marital Manners, and old experienced Mans teach them how to behave in the presence of their mistresses, how to lead gracefully at the end of a silver chain and see things without appearing to look around them. The heinousness of the crime of "sheiking" as it is called, i. e., the process of making "google eyes" at any female other than the lawful mistress, is pointed out to them and especial stress is laid upon the penalties which will follow any 'monkeyshining' (using, again, the peculiar but expressive American term) with Mamettes. Such measures are necessary, unfortunately, for the reason that it has been found quite impractical to debar the younger females from taking an extremely active part in political, business, professional, and social life. Most of the time, of course, they come in contact only with the harmless Mannies, but it not infrequently occurs that a Mans, having nothing particular to do, wanders from his Community Crib and—deprived of the watchful eye of his mistress—endeavors to become friendly with unattached females. The Seniles, however, were well aware of this inherent attribute of the Mans and a very efficient corps of Female Police (She-Dragons, they are termed) take care of such offenders. For the first offence, the Mans' head is shaved and he is muzzled; for the second, he is sent back to his Separate State for one year, and, if he is again taken out and again offends, he becomes a Mannie. They are very definite upon these points, those Americans.

Care of the Young

"The young are born in what are termed "Reception Reserves" and, as for many years there had been difficulty in preventing certain surviving Mans Doctors from being selected by Mas to attend them during this process, the Seniles enacted another statute making it a felony for any male to enter these places. Huge signs, 'No Progeny Delivered by Males,' are erected on the fronts of the buildings and armed She-Dragons are on duty constantly. Here, as elsewhere, Mas direct and Mannies perform the manual labor and menial tasks. Specially trained Mannies take charge of the progeny after the first month, and each and every hour administer a small flat wafer, composed of desiccated goat's milk, evaporated orange pulp, soy-bean flour and vita-vitamines obtained partly from the Jerusalem artichoke and partly from the liver of the common catfish. Each wafer contains a 'most extraordinary nutritive value' and, washed down by a dram of slightly sweetened water, affords all the essentials for the rapid growth of the infant. All children remain unclothed until the fifth year, thus insuring full oxygenation of the tissues. During this period, they are merely 'Its,' bearing upon abdomen and back a serial number by which they will be known and their 'performance' recorded until they go either to the 'Departure Depot' or meet death under unforeseen circumstances.

"Mothers among this strange people, it will be observed, cease to function as such one month after their child's birth, the State thereafter assuming full charge of its future. The duties and privileges of parentage as we know them do not exist, the full mental and physical energies of the Mas being required by the Community, and the Mans being merely an essential —but extremely annoying—factor in their scheme of life.

Wafting On

"By such procedure, and the 'Wafting On' process (which will be explained later), the American Communities are kept practically free

of the unfit, the chronically ill, the paupers and the aged. True, at this date, the 'Seniles'—as the Supreme Ruling body (or Senate) is called—consists entirely of aged Mas well past the child-bearing period, but, save for these and those reserved to fill vacancies as they occur in this august assembly, all aged Mas, Mans and Mannies are 'Wafted On' as soon as they become either permanently disabled or sixty years old. At this time (2023) there is a strong movement on foot to 'waft on' *everybody* at the sixtieth year. The more conservative Mas object to this, point to the past and state that, in the old Mans days, 'the Senate was, as it is now.' But the progressives come back with the argument that the World Moves and has improved very materially since the Mas became Mistresses of Human Destiny—in Advanced America.

"Further, they produce from the archives of the past clumsy looking masses of paper known to the ancients as Books and read therefrom statements attributed to a great Man's Physician to the effect that *'every man should be chloroformed when he reaches his fortieth year.'* 'If *that* was true in times past,' they cogently remark, 'we are humane indeed when we only Waft them On at sixty!' It would appear from the latest information obtainable that the Progressives will win out and a great 'Wafting On' take place. There are times when one is tempted to believe that such a procedure could be instituted even here with great advantage.

"The 'Wafting On' in American Communities is done at 'Departure Depots,' which usually face the Reception Reserves. To these depots are brought (or come) those who must waft. From the moment of their arrival, they are most tenderly treated by the Mas and Mannies in charge and, after being bathed and fed upon such delicacies as they may desire, are ushered into a flower-decked softly lighted hall. The most wonderful and soothing strains of music fill this apartment, and an exquisite perfume pervades the atmosphere. Here the senses are literally lulled to sleep and no one knows when the deadly cyanized Argon is turned on, each individual passing into the eternal sleep smiling and content. The bodies of the dead are subjected to certain chemical processes and various 'precious elements' recovered. As far as is known, these elements are employed in obtaining certain electronic vibrations which serve to give light, heat and motive power to the Communities. It is unquestionably the discovery of this mysterious principle which enables the Americans to float anywhere at will and also permits the illumination of a most extensive Community by a single light which resembles a miniature sun.

Futurist Surgery

"Another extraordinary thing the American Mas have developed is, the possibility of freezing *in vacuo* any part of the body and breaking it off without injury to the adjacent tissues or the loss of blood. At one 'separation,' which I managed to witness by bribing the Mannies serving as 'Repair Helpers,' the leg of a Mans was enclosed up to the middle third of the thigh in a metal sheath to which various wires and pipes were attached; taps were turned, switches thrown, and, in less than three minutes, the operating Doctorine snapped the whole apparatus quickly upwards and removed the extremity therewith, as one would break off an icicle! The stump was then treated with Nitronized Light waves and healed within twenty-four hours. As this was a very valuable Progenitor in the prime of life, and he had broken his leg while attempting to carry his Mistress over a muddy spot in the 'thro'-way', it is likely the Committee on Continuity would not insist upon his being Wafted On—for a few years at least. Indeed, this Mans was so peculiarly favored that I have reason to believe that certain Mamettes were permitted by corrupted Mannies to float into his 'Repair Crib' and hold his hand—or *hands*, perhaps, who knows? He had two of those."

—

Just as I reached this point in Roundmouthus' observations, Haig, who had been "gazing" very deeply, upset the crystal, and the opportunity to gain further information was lost. On thinking things over, however, I am more than ever convinced that Things Won't Be the Same in a Hundred Years and that I am glad I'm not going to be here. It is disturbing, though—even terrifying—to think that one *might* be reincarnated and become a Mannie. I should hate that! Wouldn't you?

Let's Talk it Over

Active-Principle Materia Medica

With Physiological Effects and Therapeutic Suggestions

By WM. T. THACKERAY, M. D., Fowlerton, Texas

[*Continued from January issue, p. 61.*]

Ammonium Salicylate

Physiological effects: Similar to those of salicylic acid; but its action on the heart is less marked. It is a valuable antiseptic.

Therapeutics: Indications the same as for salicylic acid, sodium salicylate or lithium salicylate. It is useful in many febrile conditions accompanied by acidemia, intestinal fermentation, etc. Chronic bronchitis and pharyngitis are benefited; its less depressing cardiac action renders it better adapted to anemic subjects with weak heart action, as in the aged.

Dosage: 1/6 to 1 grain repeated as required to effect.

Anemonin

A peculiar camphor from the Anemone pulsatilla.

Physiological effects: Diminution of the frequency and strength of the heart beats, sometimes preceded by a period of excitement, slowing of respiration, stertorous breathing, sinking of temperature, nervous and muscular prostration.

Therapeutics: Adapted to the treatment of acute inflammations of the nasal, faucial and bronchial mucous membranes.

It is contraindicated in gastrointestinal cases. It has special action upon the generative function in women, increasing power and relaxing spasm. When given near the menstrual period, it produces an increased flow. It is especially useful in maladies of a general character which are accompanied by fear or great anxiety.

Dosage: 1/128 grain, every half hour in acute cases and every two to four hours in chronic conditions.

Antimony Arsenate

Physiological effects: Moderates the vitality and nutrition of the organs supplied by the pneumogastric nerve, and stimulates the secretion of the mucous glands. It relaxes vascular tension by combating excessive heart action.

Therapeutics: Useful in cardiac affections to slow and regulate the heart action, and in chronic bronchopulmonary diseases as an expectorant.

Dosage: 1/64 grain, one to two doses every hour as an expectorant, and from four to six doses daily in affections of the heart.

Apiol

A camphor from the oil of the Petroselinum sativum.

Physiological effects: Congests the pelvic viscera; stimulates secretion of all mucous membranes. Raises arterial pressure by increasing heart action and stimulation of the vasomotor centers in the medulla. Congests the uterus and increases mucous flow.

Therapeutics: Very useful in amenorrhea and dysmenorrhea, especially in anemic conditions; given in combination with iron.

Dosage: 1/64 grain, every half to two hours until effect.

Apomorphine

An artificial alkaloid obtained by the action of hydrochloric acid upon morphine contained in closed tube, and submitted to an elevated temperature, also by the action of chloride of zinc in solution on morphine.

Physiological effects: Either subcutaneously or by mouth, it produces emesis in from five to twenty minutes. The vomit is not, as a rule, preceded by sickness, and the stomach is fully evacuated with little or no effort. The pulse is slightly accelerated before emesis, followed by slight depression, with speedy return to normal. In exceptional cases, great prostration occurs after the emetic action, hence the advisability of using great care in administering to feeble persons and young children.

The respiration becomes quickened and irregular previous to vomiting and the temperature is not sensibly affected. The reliability of apomorphine as an emetic and its freedom from depression, in the greatest majority of cases, render it a highly useful agent whether used hypodermically or by mouth.

Therapeutics: Apomorphine is a very serviceable agent as an evacuant of the stomach,

especially in cases of poisoning; also, in bronchial and pulmonary affections of children, as an expectorant. In capillary bronchitis, associated with brucine, it renders excellent service as a respiratory tonic and expectorant, the action being enhanced by the combination.

Dosage: 1/64 grain every half hour as an expectorant. 1/12 to 1/6 grain, either by the mouth or hypodermically, as an emetic.

Apomorphine Hydrochloride

The same remarks as to physiology, therapy and dosage as given for Apomorphine apply here.

Arbutin

Glucoside from Uva ursi and other species of Arbutus.

Physiological effects: Increases the flow of urine, toning the mucosa and acting favorably upon the whole genitourinary system. It also, in a measure, affects the solids, increasing their elimination. It is strongly antiseptic. In large doses, it produces vomiting and purging, also inflammatory conditions of the mucous membrane of the bladder and urethra, accompanied by tenesmus and, often, a bloody discharge.

Therapeutics: Used as indicated to effect, it is one of our most useful remedies in renal congestion and irritation, cystitis, urethritis, specific or catarrhal, restraining the loss of albumin in nephritis, against pus in pyelitis, and all other forms of pyuria. Its uses are legion and the results gratifying.

Dosage: from 1/64 to 2½ grains, the preference being given to 1 grain repeated as required.

Arsenous Acid

A white crystalline mass and known as white arsenic.

Physiological effects: It combines directly with the red corpuscles of the blood, replacing the oxygen, hence the lessening of the metamorphosis of tissue, as demonstrated by the decrease in the amount of urea excreted and by the reduction of temperature. It increases and promotes the growth of epithelial cells.

It also produces a white, silvery, tongue. Irritation of the conjunctiva, swelling of the face, slight desquamation of the skin noticeable only with the aid of a magnifying glass, a brown dingy color of the skin in places protected from the light, are some of the characteristic effects of this agent in excessive doses. It is, however, a valuable restorative with efficient action on the blood and heat supply. In large doses, it is a corrosive, depressing poison.

Therapeutics: Useful in chloranemia, leucorrhea, atoxic, adynamic fevers, cholera, cachexias, purulent affections and in chronic scaly diseases of the skin. Also a very serviceable febrifuge, next to the cinchona salts, in malarial fevers. Acts beneficially in the treatment of eczema, also in pellagra and in chronic diseases of the liver and spleen. Recommended in some forms of sarcoma.

Dosage: 1/64 grain, after each meal, increased cautiously or reduced as individual tolerance and conditions demand.

Arsenous Bromide

Physiological effects: Same as preceding.

Therapeutics: Is a recognized alterative remedy in epilepsy and like convulsive conditions.

Dosage: 1/64 grain, three or four times daily, until the desired effect is obtained.

Arsenous Iodide

Physiological effects: Both of the elements contained act notably upon the eyes, and the irritation denoting full effect occurs more quickly than with any other preparation of either.

Therapeutics: Burggraeve utilized this salt in the treatment of the dry forms of skin diseases where the pores of the skin are obstructed and crusts or scales formed.

Waugh strongly recommended arsenic iodide in the treatment of arteriosclerosis and claimed most satisfactory results.

In the treatment of acute manifestations of syphilis, cerebral, ocular, nasal, etc., arsenic iodide (with mercury biniodide and iodoform) is much superior to potassium iodide, quicker and more powerful results being obtained.

Dosage: 1/64 grain, three or four times daily, and this may be continued indefinitely or until desired effect is realized.

Arsenic Sulphide

Physiological effects: Same as for arsenous acid.

Therapeutics: Its specific indications are for microbic infections, such as gonorrhea and, especially, in the rheumatism which at times accompanies it.

This salt of arsenic adds materially to the effects of calcium sulphide, as has been demonstrated in many cases.

Remarkable results have been obtained by the use of arsenous sulphide in acne and in many forms of skin diseases. In albuminuria, it will be found of signal service, the dose being continued to tolerance. Eczema of the dry and scaly variety will respond to arsenous sulphide, with saline elimination and a regulated diet.

In fact, its use may be extended to the whole range of maladies due to plasmodial parasites, such as, malaria and syphilis.

Dosage: 1/64 grain three or four times daily

after meals, increased or diminished as conditions require.

[*To be continued.*]

CARELESS SPEAKING AND WRITING

[*Concluded from p. 92*]

Still, we have seen typewritten pages that caused us to groan in despair, while pen-written communications have been submitted to us that were beautiful to behold and a joy to copy-edit. Be it said, that the ease with which manuscripts are copy-edited, (that is to say, made ready for the printer) stands in direct relation to their mechanical perfection. Well-written papers, properly spaced, typed or written carefully and in well-thought-out language, hardly ever require correction or improvement. In badly typed or written manuscripts, the language usually is found to be careless and slipshod; even grammar often is sinned against, and, altogether, the time and effort expended on their preparation are many times out of proportion to their usefulness.

It would be wrong to conclude that this relationship exists in every case. It happens that a man expresses a splendid and useful thought but in halting and even uncouth language. He may not have had the advantage of much schooling; but, he benefited from the lessons learned in the "University of Life". Such examples occur occasionally. They never arouse our ire or even our impatience. We are always glad to put the finishing touches to a manuscript that bears the evidences of real thought and of honest effort. It is the manifestly ill-considered, hasty or shoddy letters that, we believe, could be improved upon.

Painstaking effort always brings its own reward. The one benefited most from medical papers is the one who writes them. That is a truism that has impressed itself upon us many times.

To conclude an overlong preachment: We want papers and letters: Short, snappy, terse and concise. Let them contain one or two thoughts expressed briefly or elaborated, but employ simple language. Say what you have to say and then stop. If you can "type" them, well and good. Do so, double space, and we will thank you. If you write with pen and ink, write legibly, space sufficiently, and write on one side of the paper only.

THE SECRET OF CURE IN EPILEPSY

About the worst thing a physician can do is, to look upon any case as hopeless or incurable. I do not mean to refer to those cases where death is imminent and inevitable, but to those diseases that usually run a long course and almost invariably end in death. The doctor, who admits to himself that he has no chance of curing a patient, is certainly not going to study that case seriously, as he should. He is going to lose interest because he has no hope. He will give the routine remedies and rest his conscience as his patient drifts to the end.

The reason that more cures are not made in consumption, cancer, epilepsy, Bright's disease and other maladies is, because these cases are not studied individually but treated on general lines by physicians who have no faith in the ultimate results of their efforts. When I was a medical student, a mulatto girl of about eighteen years was brought to the college dispensary where I was assistant. Before she could tell what her ailment was, she threw up one arm and fell on the floor in a violent convulsion. While she was writhing and foaming at the mouth, the professor of obstetrics passed by and, without stopping, simply said: "Epilepsy—all you can do for her is to keep her saturated with bromide of potassium." This man was one of the brightest members of our faculty and was regarded as one of the ablest practitioners in the city.

I interpreted his suggestion as saying in so many words that these cases were practically incurable and not worth wasting time over in studying the causes of this distressing condition. My fellow-student in dispensary work was a middle-aged man whose medical education had been interrupted by four years of service in the Confederate army, and he was taking his last course and expected to graduate in a few months. He seemed disgusted at the indifferent manner in which our professor had spoken of the poor girl.

"That fellow's advice isn't worth considering," said he.

"Why not?" I asked him.

"Because he does not bring you anywhere—he does not tell you to try to cure her," he replied.

He put me to thinking; and we agreed to study her case and watch results. We learned that she had been having these seizures for about two years, several times during the month, but more frequently just before her menstrual periods. We found that she was a big eater, especially of meat, and a further examination revealed a caruncle at the urethral orifice. This was so sensitive that she was thrown into a convulsion from the manipu-

lation necessary to make the examination. We chloroformed her, cut out the caruncle and burned its base thoroughly. Then we put her on a limited diet, largely bread and milk, gave her moderate doses of sodium bromide for a few weeks and turned her loose, telling her to report once a week. She had two very slight seizures within the first ten days after the little operation, but there was no return of convulsions after this and, at the end of six months, we considered her cured.

—

In the earlier years of my practice, I was appointed one of the city physicians to vaccinate a certain section. While vaccinating a colored family I noticed a girl of about eighteen or twenty fall backwards and hit the floor like a log. She had one of the hardest convulsions I ever witnessed, and it was nearly an hour before she regained consciousness. They told me that she had them every day or so, and asked me if I "reckoned I could do anything for her"? In spite of her frequent and severe attacks, she was a bright, intelligent looking girl. She had been given bromides until she was thoroughly brominized, and I concluded to look for the cause. I found that she had scars in the groin where a bubo had suppurated and healed; she had mucous patches in her mouth, and the characteristic plaques on the tongue; also, she suffered from severe attacks of hemicrania. I gave her tonic doses of bichloride of mercury and all the iodide of potassium that she could possibly carry. In a month's time, her attacks were very few and very mild and, at the end of five months, they had left her entirely. I know that she went several years without a return, when I lost sight of her. I attributed her cure to the possible absorption of gumma in brain or cord.

—

I was called to set a boy's broken arm from a fall from a cherry tree. While I was adjusting the fragments, he went into a convulsion. They told me that he had a fit while up the tree, which caused him to fall; and that he had them very often. I was unable to find any exciting or remote cause for these attacks. However, like most epileptics, he was an imprudent eater—an overfeeder. I cut his diet down in quantity and quality, kept him hungry, mostly on a bread and milk diet, and gave him a saline laxative two or three times a week. About this time, I received some literature from a manufacturing drug house relating some wonderful results in epilepsy with a form of hydrocyanate of iron of their special make. Without noting any special indication for the use of this remedy, except the possibility of tranquilizing the circulation and enriching the blood, I put him on it and kept him on it for six months. From the first, his seizures became less and less frequent, and he was entirely cured and remained so under an observation of several years.

—

About five years ago, a young man about twenty-seven years of age applied to me because of epileptoid attacks of two years' duration. He was employed by one of the railroad companies here, in some such capacity as wood worker, painter or some inside work. He appeared to be in splendid physical condition; but, on account of frequent attacks, he had given up his work and resolved to seek relief, if anything could be done for him. After careful examination, I could find no special indication to be met except to just overpower the system with such specifics as the bromides and similar depressants, which actually had done him more harm than good. I noticed that his pulse was soft and very compressible, and that he would have occasionally a minute or two of sudden bradycardia.

He would generally have an aura, which manifested itself as a sudden fear and faintness, when he would fall unconscious and become violently convulsed. It occurred to me that these attacks came on from sudden anemia of the brain, and I was put on the right track, one day, by a casual remark he made, that he "never had a fit when he was a regular drinker." He was a married man and suddenly quit his three or four drinks a day to please his wife, though he had never been a drunkard nor apparently affected by what he drank.

This proved to be one of the most interesting, instructive and satisfactory cases of epilepsy that I ever treated. The patient had two things in his favor: A warning and, usually, a little time to do something to ward off the attacks. He could often anticipate the advent of a convulsion considerably in advance by reason of a strange, foolish and helpless feeling —"tired in the head," as he expressed it. I directed my efforts entirely to improving and stabilizing the circulation. My treatment in a nutshell was: A generous diet, tablets of Triple Arsenates with Nuclein, three times a day and long continued; tablets Tr. Strophanthus, 2 minims, three or four times a day. Pearls of Amyl Nitrite for emergencies, and tablets of glonoin always in the vest pocket, where he had time to slip one under the tongue, were given him. Further (now, don't you pro-

hibitionists cuss me out!), I told him, whenever he felt that slowly advancing weak feeling approaching, to take a stiff drink of whisky, and another if he needed it, until he had a head full of blood and felt right. This man did not abuse my advice; he used very little whisky and only under the threatening conditions; but, for the past four years, he has been well and happy, making fine wages and taking good care of a good wife and a pair of fine youngsters. I feel about giving this man whisky somewhat like the fellow did who, when told by his pastor that whisky killed more men than bullets, replied that, while that *might* be true, he himself had "rather be filled with whisky than bullets"!

—

One of the most remarkable cures of this terrible affliction was in the person of a young woman who married contrary to my advice and that of her parents and friends. For the first two or three months after marriage, she had a few convulsions; but, as pregnancy advanced they ceased to appear and she actually passed through her confinement without puerperal or epileptic convulsions and "ever after was well and happy".

An old medical friend, to whom I related this case, said: "I'll bet a dollar that, if her clitoris had been amputated, her convulsions would have been cured."

—

I wish to emphasize one or two points. Epilepsy should not be regarded as a disease to be treated as such, but as an evidence of some fault that must be found and corrected.

No case should be abandoned as hopeless. Keep looking and groping for light.

Where you are kept guessing, use Solanine Hydrochloride in conjunction with verbenoid, and you will often hit the mark, though you may not see what you are shooting at.

C. A. Bryce.

Richmond, Va.

IN OUR GRANDMOTHERS' DAYS
Being Almost an Autobiography

As I sit tonight by the study fire, with the wind moaning a requiem to the dying year and with the sleet storm beating a weird tatoo on the window panes, my memory has been busy with the scenes of the long ago. I see a train of white-topped wagons toiling slowly across the western plains following the dim trail toward the evening sunset. Day after day, week after week, month following month, I see them winding through the valley of the Platte, across the Laramie hills, on through the mountain pass, across the gray sage plains of southern Idaho, topping the Blue mountains of Oregon, to finally halt beside a clear stream, just as the early November snows are powdering the hillsides.

It was an eventful trip, one fraught with many strange experiences. I still vividly recall the first herd of buffalo rolling across the sandy shallows of the Platte;. the excitement and bustle of preparation as the teams were turned aside from the road, the horses outspanned, the hasty saddling, the flourish of arms and the rattle of the hoofs on the dry ground as the horsemen sped away to replenish our (by now) scanty larder. Then, too, the sight of the antelope bounding away like huge animated cotton balls, to turn when they were safe from pursuit and gaze at the passing train. And our first sight of Indians. A few miserable remnants of a once powerful people, mounted on half-starved cayuses, clad in cast-off garments of civilization, gathering about the evening camp fire, begging for something to keep body and soul together.

Then, our first sight of the Rocky mountains towering majestically in our path. It seemed as though we could never surmount them, and, how they grew daily less imposing as we climbed the almost imperceptible slopes that led us up to the very summit.

Perhaps the thing that impressed me, a child, most was, the crossing of the great Snake river plains in southern Idaho. Miles after miles of dull gray sage, peopled only by sage grouse and by immense jack rabbits. Then came the lava fields with the "Oregon Trail" winding in and out among them like a never-ending serpent. The crossing of the Snake was in that day quite as hazardous as pictured in "The Covered Wagon", and many a toil-worn emigrant, his journey's end almost in sight, lost his life in the boiling whirlpool below the ford.

In Oregon

Perhaps in all that long and toilsome journey, no sight was calculated to gladden the eye more than the valley of the Grande Ronde in Oregon, just east of the Blue mountains. A great round level mead, surrounded on all sides but one by lofty, pine-covered mountains, a beautiful trout-laden stream wandering at will through the tall grass, here and there small herds of stock grazing, now and then a log farm house; occasionally a frontier hamlet. It took us four days to traverse this Elysium, four days for us children of scampering along the stream, exploring the hill-

sides, dipping into the dense groves of cottonwood in search of childish adventure, to assemble around the campfire at night and chatter over the day's happenings. Then on across the Blue ridge and the little town of Pendleton, a few miles beyond which was our destination.

One morning, about ten o'clock, we mounted a rather steep hill and looked down into a narrow valley with a log house, sheep corrals, barns and hay stacks in the foreground. Great herds of sheep were scattered over the surrounding scenery, biting shorter the short bunch grass, their herder standing in statuesque pose upon some overlooking promontory, his faithful herd dogs crouched at his feet. As the wagon train pulled down the dusty road toward the cabin, a woman in a check gingham dress and a blue sunbonnet came running to the gate waving her kitchen apron in token of welcome. Thus we came to Oregon.

Somewhere on the road, during the latter end of the journey, we contracted measles and, very soon after landing, all those who were not immune came down with the disease. The sheep yards were near at hand, so there was no dearth of the sovereign household remedy. I very distinctly recall that, even then, my soul rebelled against such treatment and I positively refused to drink anything hot during my entire illness. I also recall that the others were not so fastidious about their diet, but obligingly swigged teas concocted from the droppings of the sheepfold with, I suppose, great gusto. At any rate, they all recovered.

An Indian Scare

The winter that followed was uneventful. There were no schools, no churches, no society, nothing but the endless stretches of snow, plain with bands of sheep wandering over it; the sole industry, tending the sheep or cutting sage brush and dry willows to keep the fire going.

Spring came and unlocked the streams, melted the snows and sent them scurrying down the steep hillsides, a brown flood. It was a typical eastern Oregon spring, with days of bright warm sunshine mingled with flurries of snow and blustering winds. It was on such a day as this that a cowboy rode up to the gate, his horse a lather of foam, called father out and spoke hurriedly to him, put spurs to his horse and disappeared. That night, father held conference with the other men around the heating stove, after we children were in bed and supposedly sound asleep. They spoke in low tones and I could not overhear what they said, but I realized that there was something amiss.

Lost in a Blizzard

It was a part of my daily task to carry a warm noon lunch to one of the herders, who usually worked his charges down to the brink of the canyon, at midday, for that purpose. On this day, I took the lunch bucket and set out, climbed the rocky sides of the canyon to the level mesa. The herd was nowhere in sight. I set out in the direction indicated by their tracks, in the hope of soon overtaking them. I had not proceeded more than half a mile, when the sky became overcast and a snowstorm came hurtling up out of the southwest, filling the air with blinding flakes, obliterating the sheep trail I was following, shutting out the entire world save where I stood. I wandered aimlessly on, hopelessly lost. All afternoon, the storm howled over the mesa. I tried to track myself back, but soon gave it up as a hopeless task, as my footprints had long since been covered with snow. It began to grow dusk, as the sky somewhat cleared.

I was near the old Three Rock Indian trail when, chancing to look up, I saw a band of horsemen coming down the trail. One glance told me that they were Indians, different from any Indians I had ever seen. Riding ahead, were the warriors decked out in all their savage panoply of battle, while behind came the women and children driving the pack animals. Like a flash, came back to me the conversation of the night before around the stove fire. The visit of the cowboy was now explained: The Indians were on the warpath and this was the advance guard. They had not seen me and instinctively I sought shelter. Not far away, was a rocky arroyo into which I plunged, hiding behind the tumuli of lava rock. The band passed on and was lost in the distance before I ventured forth.

Night came, night on the habitless prairie. It was bitterly cold, and I had heard of people lying down in the snow never to arise; so, I kept on. I was hungry, for I had long since thrown the lunch pail away. After what seemed hours, I stumbled into a rocky gulch and was too weary to climb back out again. Then, too, I had a dim notion that, by following down the gulch it would bring me to the stream. After what seemed other hours I reached the point where the gulch debouched upon the stream. A light flashed in the distance and a dog barked. I hastened toward the light, to be met by the baying and snarling of a horde of dogs. Then the dim outlines of a row of tepees loomed through the darkness, and I knew that I was approaching an encampment of Indians, perhaps the same ones I had

seen in the afternoon. I turned to flee back into the protecting arms of the darkness, tripped over a picket rope and fell sprawling. By this time, there was a horde of Indian dogs snapping and baying at me where I lay. The dogs formed a cordon about me, and escape was impossible. Light flashed in the tepees, and the sound of running feet. The form of an Indian towered above me, I felt myself seized and dragged to my feet.

Indian Hospitality

Just why I did not faint from terror, I do not know; perhaps we were not of the fainting tribe. From all that I had read, I expected to be scalped; but no such thing happened. The Indian who held me was joined by his companions and they held a guttural council over me. My captor led me toward the tepees and, in a short time, I found myself seated on a couch of skins before a warm fire. An Indian woman busied herself warming over a stew left from their own evening meal, which she presented to me. Instinctively, I knew that the savages intended me no harm, so I fell upon the savory stew like a famished wolf. The warmth and the full meal soon did their work. I curled up on the robes and fell asleep. Early next morning, mounted behind my friendly captor, we proceeded down the stream. In an hour, I began to recognize familiar objects and, shortly, saw the ranch house with the morning smoke curling from its chimney. There was much stir about the place, men on horseback coming and going in great haste. The Indian rode up to the gate and called to the men assembled in the yard. Fortunately, one of them knew enough of the Indian tongue to make out that the Indian was returning the lost boy. Not waiting for thanks, my late host turned and rode back up the valley. So ended my captivity, which was not much of a captivity, after all. The Indians proceeded on into Idaho where, a few weeks later, they devastated the frontier.

CHAS. S. MOODY.

Menan, Idaho.

—

[Doctor Moody's reminiscences are vastly interesting, entertaining and filled with truly American romance. We are certain that our readers are enjoying them as greatly as we are. Also, we sincerely hope that Doctor Moody will continue them—as long as he has anything to relate. Unless we are much mistaken, that will be for a long time; for, the doctor has lived a very active life among those far-western mountains and plains where there was much hard work, and also romance.—ED.]

TUBERCULOSIS IN MEXICO; PULQUE, ETC.

You virtually command me to tell you something about my tuberculosis work. It does not shock my sensitive nature to be commanded; once upon a time I got used to that. However, it takes a "Regular" (like Shakespeare) to write something about nothing.

I don't mean that the "White Plague" amounts to nothing; but it is what the general run of men know about it. All search for knowledge on the subject is supposed to be, the making of efforts to reach a goal, the cure. Thus far we have never reached it. After much writing, after wrestling with research and experimentation, we are still paddling around in rather a rough sea; but not hopelessly so.

All efforts are well founded. Had no man ever made an effort in any process of life, we should today probably be far behind Adam and his beloved wife when they resided in the Garden of Eden. I feel the sting of compliment (Blush) when you ask (?) me to tell you something about this part of my work. When Rip Van Winkle woke from his nap, I believe the first words he said were: "The World Do Move." All matter is in a state of unrest. This is true of this earth as well as of the whole universe of planets. Space is full of flying stuff which travels at a tremendous rate of speed. When Abraham Lincoln was residing in the White House, a few millions of dollars was a good big sum of money; but Mr. Harding uses it by the billions, and is just as short of money as was Mr. Lincoln. Why? Because everything is now entirely different. Not the true life-conditions from a chemical viewpoint, but the *"circumstances."* With all this rapidity, and with the National Tuberculosis Association to help, we naturally look for better stuff in the near future.

Mexico has not kept pace with the balance of the World in its development into a strenuous nation; because the masses of the people live according to the lines of least resistance. It surely requires effort on the part of the individual to acquire efficiency. If a problem meets you, and you meet it, whether you *win out or lose out,* you still are winner. This makes good exercise for the "skull-marrow" and you are the better fitted for the next problem.

Allow me to say here, that I often wish men would publish their mistakes as much as they do their successes. Errors are expensive, sometimes, but they are worth the money. Life in

Mexico is too easy to be conducive to the development of an aggressive community. The people want to be "Just let alone".

Tuberculosis is the bane of the Mexican masses. The reason for this is not that they are different from others of God's make, but owing to their methods. The houses are of the adobe kind, with one door and no windows. At night, the door is shut and the family sleeps in a carbon dioxide atmosphere for most of the night. If one member has tuberculosis, it is just the same as if he did not; they sleep in blissful ignorance. Another cause for tuberculosis in Mexico is owing to these years of revolutions. War! The masses of the people have not had sufficient food. Not all the time, but many times. Their bodies did not develop the proper resistance. War produces a psychologic effect, also, that tends to reduce the resistance of the body to ward off germ-diseases.

To this date, there is no specific treatment for tuberculosis, as every well-read doctor knows. For treatment, we depend on nature to help us out. However, the doctor is very useful in directing properly indicated remedies in accordance with the symptoms. I do the same thing here in Mexico, having proper climatic conditions to help.

Saltillo probably has one of the best climates in the world for treating patients with pulmonary tuberculosis. But, climate alone will not cure all cases of pulmonary tuberculosis. The patient must make a business of his cure, he must have rest of mind and body. He must take hold of himself early (before he is dead) and make a systematic *pull* for his life. He must have sufficient funds to meet the requirements, then battle with the forces of the body against the attack of the disease, under the supervision of a physician.

Agua Miel

In this climate, with well selected cases, the help of good food, proper rest, proper exercise, we do not dread pulmonary tuberculosis. Another thing: We have plenty of Pulque, the fermented juice of Maguey, or century plant. This juice is obtained by plunging a long needle attached to a syringe into the heart of the plant and extracting it by suction. Each plant produces about eight ounces every ten days after it becomes of bearing age (about 10 years old) and continues to produce for about 10 years. This juice, when fresh, is called *Agua Miel* (Honey-Water), and is more susceptible to fermentation than is sweet milk. It carries its own *vitamines* and yeast. The quantity of fresh juice to be taken one day, if kept at about 90 degrees Fahr. for 24-hours, will contain about 8% alcohol, and this without the addition of any kind of yeast. What other liquid in the world will do that? That amount of alcohol is sufficient to stop the fermentative process, and, if pushed to the proper amount of consumption will produce intoxication. The taste is not very different from that of hard cider, but sweeter, because the fermentation is stopped before all the sugar is used up. It looks like well-made "Chock"; which is a fermented drink made by most Coal-miners in the United States (home-brew). Pulque is also highly nutritious, even barring the 8% alcohol. It sells on the streets for about ten cents per quart, by *venderos* who carry two wooden bucketsful on the end of a stick, like the Chinese carry water. After the needle, with which the juice is extracted from the plant, is taken out, the hole is closed up with a little ball of wax about the size of the end of the finger and resembling gum Arabic. A plantation with 10,000 bearing plants will produce about 60 gallons of juice per day, which is worth about $20.00 U. S. Currency ($7,300 per year). The plants are set about 10-feet apart.

For my patients, I mix about 3-parts of pulque and one part of Agua Miel, which makes the sweeter drink. Add a little ice, if they want it. In this climate, we use very little ice as we do not feel the need of it. You will understand this pulque is not a treatment for tuberculosis, but only a food-stimulant when you need one, and the very best alcohol-bearing substance that I have ever seen.

Pulmonary hemorrhage is best controlled by the use of emetine in large doses (1 grain) intravenously. You get the direct astringent action on the open vessel in the lungs. I give it pretty quickly, so as to get the full force of this astringent action. Only a few times the patient says: "I am getting blind". Then I order him to shut his eyes. Don't use these large doses except with the patient in the recumbent position, for you very probably would have syncope follow its action on the brain. In the recumbent position, the patient always retains consciousness and you just have to do a little talking to keep him from getting excited. For a tonic to aid metabolism, nothing has given me better service than iron cacodylate and sodium cacodylate with nuclein. With high acidity, you will get good service from a combination of sodium salicylate, guiacol in Locke's solution, more especially in cases with asthmatic symptoms.

I try to keep my patients happy. Give them plenty of sunshine, and every day have them take a little hammer and a pocketful of nuts,

go in the garden to crack and eat. The patient must be free from financial worry. Living expenses here will not exceed $150 U. S. Currency per month. We use the best imported foods, with some native fruits and vegetables. We have plenty of good rich milk and the best American butter obtainable (Falfurrias, Texas) with numerous American canned goods. In fact, we live as well as you do in Chicago.

If the patient is not too far gone, he may just as well forget that he has tuberculosis and build for himself a future, provided the disease has not extended to the glands. Then all climates are equal. Climate benefits tuberculosis of the lungs the most.

If the thyroids are subnormal, good results can be obtained by the use of desiccated thyroids or others of the hormones that will aid nutrition.

T. H. STANDLEE.
Dispensario del Sanatorio Americano,
Calle Morelos No. 15, Saltillo, Mex.

THE "CURE" OF TUBERCULOSIS

In an article published elsewhere in this issue of CLINICAL MEDICINE (p. 143), Dr. T. H. Standlee, of Saltillo, Mexico, says that "all search for knowledge on the subject (of tuberculosis) is supposed to be, the making of efforts to reach a goal, the cure. Thus far, we have never reached it. After much writing, after wrestling with research and experimentation, we are still paddling around in rather a rough sea; but not hopelessly so."

The "cure" of tuberculosis is a topic that is discussed daily in numerous articles in periodical and in book literature. The expression is indulged in not only by laymen but also by physicians who might be expected to realize that its employment gives rise to mistaken ideas. When we speak of a cure for a disease, we refer to something by which this disease can be eradicated and its victim, the patient, restored to health. The proper employment of quinine will eradicate the plasmodia malariæ from the circulating blood and will bring about a "cure" of the malaria patient. The administration of mercury and of an arsphenamine preparation, in proper manner, will free the luetic patient of his infection with a fair expectation that his cure will prove lasting.

While these are of the most important instances of chemotherapeutic "specific" remedies, bacterial therapy has introduced homologous preparations in the form of bacterial vaccines (bacterins) which, being specific etiologically, clearly tend to overcome the cause of disease in so far as it relates to the causative virus. In that respect, the treatment may be designated as specific even though it is never wise or safe to rely upon it alone. The physician may never lose sight of the fact that an infectious disease does not develop merely in consequence of the related infection; that is to say, of the localization of a pathogenic virus; but that the soil must be receptive. Therefore, in addition to the "specific" bacterin which stimulates the active production of a specific immunity against it, it also is necessary to increase the organic resistance to bacterial harm, to improve the "tone" of the system; in other words, to strengthen the organism.

When we come to speak of *a cure* or THE *cure* for tuberculosis, the subject becomes even more complicated and involved. Not only is it necessary to sustain and strengthen the organism of the patient afflicted with tuberculosis, and not only is it wise (in certain selected cases) to stimulate the active production of an immunity by means of specific tubercle-bacillus preparations, vaccines, bacterins, such as one or the other of the tuberculin preparations, but it may become advisable and appropriate to resort to actual chemotherapeutic remedies, such as the copper preparations that were investigated some ten years ago, or like certain gentian dyes which recently have been praised as being very useful.

In addition to all this, it is necessary to reckon with the fact that clinical tuberculosis, at least of the lungs, is virtually never an uncomplicated bacterial disease in which only the tubercle bacillus is concerned. In all cases of pulmonary tuberculosis, with positive sputum as to tubercle bacilli, there are also found numerous associated bacteria and cocci which exert their injurious effects upon the tissue of lungs and bronchi and, indeed, many times do far more harm than the tubercle bacilli themselves.

In addition therefore, to the general tonic and supporting treatment and in addition to an active immunization against the tubercle bacillus by means of a suitable tuberculin preparation, it may become desirable or advisable to employ "specific" treatment, that is to say, a specific bacterin against the associated infection. This may be administered in the form of a stock bacterin based upon the bacteriological diagnosis, or an autogenous bacterin may be prepared for the particular case. It stands to reason that all these various methods of treatment must be adjusted and arranged with due consideration for the peculiarities of the patient. It would not do very often to administer

tuberculin and autogenous or stock bacterin simultaneously. That might mean crowding reactions and, thereby, doing harm; in other words, producing serious irritation instead of a wholesome stimulation.

It is because of this multiple bacteriology, that is active in cases of clinical pulmonary tuberculosis, that it is futile to look toward any one agent that may be counted upon to *cure* the greater proportion of cases of that disease. We believe that, in tuberculosis more than in any other disease, the personal equation, the individual pecularities of the patient are of a remarkably great importance. It will never be sufficient to administer any one certain treatment to all patients, merely with increased or diminished doses. It always will be urgently necessary to study the patient individually and to select from among a variety of remedies those that seem to be indicated more clearly in this particular case or that are found through therapeutic experimentation to produce the most satisfactory results.

The cure of tuberculosis does not consist in any one remedy. It consists in a large variety of remedial agents out of which a certain number, more or less, has to be selected for the case in hand, and it must invariably be supplemented by rigid observance of the requirements of the organism as to toning up, strengthening, feeding and eliminating. A tuberculous patient whose nutrition is raised to normal has a far better chance of recovery than the one who is persistently below weight. By normal nutrition, we do not mean merely the accumulation of weight; be it well understood. We mean the ingestion, digestion and assimilation of enough nutriment to increase weight, to be sure, but we also mean the full elimination of all waste products, the avoidance of every trace of intestinal autointoxication or of perverted body chemistry.

While "the cure" of tuberculosis is an exceedingly abstruse and difficult problem, it also is one of the most encouraging tasks before us, judging from the actual results that have been attained in the course of the last ten and fifteen years of effort.

MISTAKES IN DIAGNOSIS
A Case of Acidity

The following case report should prove instructive, in as much as several physicians of standing have treated the patient during a period of over three years. One of them, getting no benefit from injections of an immune serum, recommended opening the antrum. All treatment administered had been based on the theory that an infection was present, especially erysipelas.

Before the birth of the child, the mother was in an extremely neurasthenic condition. At birth, the baby weighed four pounds. At the age of nearly one year, it was treated for digestive upset, being the subject of the case reported in an article I wrote on infantile diarrhea. When almost three years old, the girl had an attack of what seemed to be facial erysipelas. The redness and swelling misled me. Mistakes are often made through insufficient study of a case. However, there was not then, nor in subsequent attacks, any fever to speak of, nor was pain or soreness manifest; for that reason, the attack was probably not erysipelas. Since then, recurrences have been erroneously diagnosed in the same manner by other physicians.

During the following year, the fourth of her life, this girl was treated by several physicians for her frequent attacks of swelling of the face. The left side of her face always was slightly puffy, even during periods of well being. All the treatments that were administered were mostly, if not entirely, based upon the idea of a germ infection being present.

In November 1920, when the girl was six years and seven months old, I accepted her again as a patient. She was forty inches in height, weighed thirty-four pounds and had a pinched face, indicating digestive disturbances of long duration. The left side of her face was swollen as far as her upper lip, and slightly reddened. There were sordes on the lip, vesicles on the palate and the teeth were decaying: all phenomena that might be expected from an acid saliva which probably was seldom alkaline. The buccal mucous membrane showed dark red, almost purple in color, on the left side. The openings of Steno's ducts were large, the mucous membrane lining protruding. The parents informed me that the swelling on the face usually started as a red spot in the center of the cheek and then extended; but without pain or soreness. The stools were never normal, they were dark and frequently loose. The urine was not examined.

The patient was put upon liquor calcis with the addition, sometimes, of a few grains of potassium and sodium hydroxide—because of my opinion that a free alkali is better than a salt. Enzymes were prescribed to aid digestion. In a month's time, the mouth was normal in color. There were no sordes; there had been no swelling of the face since this treatment has been begun. For four months, treatment was continued regularly and there was

no evidence of any trouble. The child showed manifest gain.

Then treatment was interrupted for over four weeks. The patient ate foods that were likely to cause her trouble to recur and, at the end of four weeks, she had a severe attack. The tongue, rather pale, was so swollen that it could not be protruded. The swelling on the left side of her face, slightly reddened, extended to the forehead. The bowels were loose. The urine, with the tincture of iron test, turned dark magenta in color; but this reaction did not occur with boiling urine.

The patient was put on tablespoonful doses of liquor calcis every hour and two teaspoonfuls of sodium bicarbonate to be given during the day and not together with the lime water, as this might form calcium carbonate. In order to aid digestion, enzymes were given several times during the day and with the food. All evidence of the trouble disappeared within a few days.

For over a year subsequently, the patient was treated frequently, whenever slight evidences of the disturbances presented but before swelling of any kind appeared. Severe attacks were always prevented.

Thinking that more might be done, the patient was taken, in October 1922, to Rochester, Minn., where it was believed that an infection, probably erysipelas, was the cause of the affection. The treatment outlined there was followed for over two months. However, very soon the face showed a return of the malady and the child had a most severe attack, the swelling involving both sides of her face which was somewhat reddened, nearly closing one eye. There were sordes on the lips, the bowels loose.

Put again upon liquor calcis, sodium bicarbonate and enzymes, the child recovered promptly, the face showed but little redness and swelling beneath the eye on the morning of the third day.

The administration of alkalies only and that of the enzymes alone did not produce as prompt benefits as followed the administration of both combined. These substances are the only remedies that were successful in this case. I am convinced that the affection is not an urticaria, since wheals never appeared. The people who, in early childhood, have suffered long from disordered digestion are apt to be dyspeptic when grown. This girl will, in all probability, require occasional treatment, and it would be best if she would not stop treatment entirely until there is manifest evidence that she no longer requires it.

I have had three cases of cancrum oris. In two, the teeth could be seen through the ulcerated cheeks. Under tonic treatment and with suitable digestives, healing was not long deferred. These cases, considered together with the symptoms in the girl whose case I have described, namely, the dark red peculiar membrane and swollen openings of Steno's duct, the fact that the swelling of the face usually starts as a red spot in the center of the cheek—all these things suggest to me that noma of the cheek may be due to a condition similar to that responsible for this girl's affection.

A. A. RADCLIFFE.

Waukegan, Ill.

—

[The autotoxic nature of the attacks which Dr. Radcliffe described so graphically, and which are manifestly of gastrointestinal origin, is so evident as to be beyond discussion. While the wheals, characteristic of urticaria, are absent, and while itching seemingly was not complained of, it may be said that urticaria is not the only consequence, upon the skin, of gastrointestinal autointoxication, and that this may be affected in other ways. Combe ("Intestinal Auto-Intoxication") explains the process so that, in traversing the derma and the glands, the abnormal principles (viz., substances of digestive origin which are excreted by the skin) create spots of less resistance and these are promptly invaded by the microorganisms of the skin. According to Calsé, Combe adds, the impression of these principles upon the cutaneous nerves is the cause of the vasomotor edemas (angioneurotic edemas, etc.). Come to think of it, the symptoms outlined by Dr. Radcliffe may well be taken as those of an angioneurotic edema. However, the name is of less importance than is the treatment which, of course, consists mainly in correcting the insufficient digestion, the faulty assimilation and the lessened excretion through the primæ viæ, on account of which the skin is overloaded and suffers harm.

Dr. Radcliffe's success with his antacid and digestant remedies supplies a therapeutic experiment which is convincing because of its invariable success. We are happy to be able to publish this interesting report. It contains several highly instructive lessons.—ED.]

LOCATION FOR DENTIST IN MEXICO

I want a dentist, because there is work to do here, and I am tired of doing dental surgery. One who can deliver the goods. He must have the very best equipment that can be

obtained. A man who is Now a success and would like to make a change, or one who WILL be a success. A man who has failed to make good and is looking for something easy is not needed or wanted.

City of 63,000 population and three dentists! Instead of pushing their business, the business pushes them. One American here, and a good one. It will cost you about $125.00 per month to do business. Better have at least $1,000 to operate on until you get fully going.

There is no take-off in this matter for me and, if you can qualify, better come and look at the proposition. If you write, send me 10 cents in stamps for reply. It only costs 2 cents for you to write me, but we pay 10 cents to write to anybody here or in any foreign country.

Business is CASH here, or you lose your work and material, because very few Mexicans will pay a bill. (See CLIN. MED., Dec. 1922, p. 935.)

I will help you to get started and advertised, but your business will be independent of mine. My word is known to be worth 100 percent; therefore I cannot afford to take up anyone unless he is perfectly competent in ability and equipment.

T. H. Standlee, M. D.

Calle Morelos No. 15,
Saltillo, Coah. Mex.

A GOOD LOCATION

We are informed that there is a fair opening for a good physician in Godfrey, Illinois.

FOR THE "LITTLE BROWN BROTHERS"

Aparri is situated on the extreme northern coast of Luzon and, with its adjacent barrios, has a population of about 25,000. Naturally, there are many young people, many of them students and teachers in the Intermediate School. Outside the school, there are only three places of amusements in the town; two dance halls and one cinema. The majority of the houses are too small for any attempts at entertainment among the young people in their homes. So, there is an urgent need for a reading and recreation room. This matter has been discussed with our young people, and they are very enthusiastic about raising funds for a small building, but we must depend upon our friends in the States to furnish us with reading material. Of course, we would greatly appreciate financial aid, also, as at best there is little money here. The Methodist boys are willing to help erect a building, if we can raise enough money to buy materials.

Our work is primarily medical, but, as there are no other missionaries within a day's journey, the spiritual and social welfare of our young people naturally comes under our supervision. We entertain in our homes as much as possible; however, as our home is directly over the hospital wards, it is not always wise and convenient to have a live bunch upstairs. We are much concerned that they have clean reading and clean social entertainments, as the future of the Philippine Islands depends upon keeping these young people interested, and they are always hunting for books and magazines.

We hope that this situation will appeal to you, as it does to us, and that each and every one that reads this plea will answer it with either books or magazines (postage and freight prepaid) or subscription for periodicals and magazines. Do not send us anything that you would not have your sons, daughters, brothers or sisters read and, so far as possible, send books in good repair, so that they can be properly catalogued. Books of travel, Alger and Henty books, Boy Scouts books, etc., are eagerly read. Any of the numerous magazines for boys and girls and any or all of the current magazines and educational journals for the teachers and older people are suitable. We have tried to interest the Y. M. C. A. in this work; but, owing to the fact that there is no high school here, they are not in position to aid in the matter.

Address:

O. G. TAYLOR, M. D.

Aparri, Cagayan,
Philippine Islands.

[The care of our "little brown brothers" in the Philippines, "in every way" naturally includes mental pabulum, such as that which Dr. Taylor asks of us. We believe that all of us have duplicate copies of good books, also files of magazines, and even books of which we have no duplicate copies but which we no longer need to keep. All such reading matter will be welcome. *Nota bene*, only such as we would unhesitatingly permit son or daughter, brother or sister to read.

Besides, the Good Wife will be delighted to make a clean sweep of that accumulation of magazines and other good reading matter that one does not care to *throw* away and which, yet, is greatly in the way. Here is a good way to set it to work where it may accomplish further good. Let us make up a package, each one of us, and send it on.—Ed.]

THE ANTHRAX CONFERENCE

Dr. M. Dorset, of the Bureau of Animal Industry, United States Department of Agriculture, recently returned from London where, on December 5, he attended, in an unofficial and consultative capacity, a meeting of the International Advisory Committee on the Prevention of Anthrax, a committee made up of delegates from England, India, Australia, Italy, Sweden, Germany, France, Union of South Africa, and Belgium. This body, which reports to the International Labor Office of the League of Nations, has for its principal object the study of methods of disinfecting wool, hides, hair, and similar products so as to protect workmen from the danger of infection with anthrax, a fatal blood disease of many domestic animals which is also very dangerous to humans and is sometimes known as "wool sorters' disease."

England has been particularly active in taking steps to eliminate the danger of infection of workmen in wool-handling establishments, and the committee agreed that for wool the English method seems to be effective. Those who attended the conference were taken to Liverpool at the expense of the British Government to inspect a large disinfecting plant constructed at a cost of $750,000. The cost of disinfecting wool brought into the country is said to be approximately 3 cents a pound.

The Committee decided that, in addition to disinfection precautions, it is advisable to prepare a list of countries from which wool can be imported with safety without disinfection. It was recommended that hair and bristles always be disinfected and that, under certain conditions, wool should be. In making up the list of countries from which wool can be admitted with safety without disinfection, it was suggested that the decision should be based upon the prevalence of cases of human anthrax in industries, the occurrence of the bacilli in products, and the precautions that are taken by the various countries to prevent the spread of the disease among animals.

Although wool can be disinfected successfully, no method has yet been devised whereby hides and skins can be effectively treated without damaging them, and it seems advisable, according to resolutions adopted by the Committee, for all countries concerned to make efforts to discover a suitable method.

So far, there seems to be little cause for alarm over the danger of anthrax to workers in the United States. The best figures available show that, in the 8 years up to and including 1917, there were only 222 deaths of humans from anthrax in this country. Of these, only about 25 or 30 percent were in industrial workers. About 20 percent of the deaths during this period were in farmers, who became infected in most cases as a result of skinning animals that died on the farms. There is no protection against this kind of infection, except burying animals dead from unknown causes without trying to salvage the hides. Those who handle wool, hides, and hair at docks also would not be protected by disinfection which must be done after the wool has been unloaded and taken to the disinfecting plant.

Now and then, stories have been published of cases of anthrax that have been contracted as a result of infected shaving brushes made of horse hair. Brush manufacturers in this country, some time ago, agreed to use no more horse hair in the manufacture of brushes of this kind.

RESEARCH ON EDIBLE GELATIN

The Edible Gelatin Manufacturers of America, Incorporated, announce the establishment of an Industrial Fellowship in the Mellon Institute of Industrial Research of the University of Pittsburgh, for the purpose of ascertaining the real food value of edible gelatin in its manifold applications in the American dietary.

The founding of this Fellowship is the outgrowth of the desire of the members of the Association to uphold high standards in the manufacture of this food and to have available, for their own use and for the trade, data of scientific and technical nature respecting its advantageous use in the food industries.

In addition to experimental investigations, a correlation of all available facts regarding edible gelatin will be made, to be held at the disposal of all users and prospective users of the product. It is hoped that real service may be rendered by supplying scientific data and technical advice.

The present incumbent of the Industrial Fellowship is Dr. Thomas B. Downey, who will be glad to furnish any available information to those interested in the uses of edible gelatin.

Dr. G. F. Brooks, of Ysleta, Texas, who recently (CLIN. MED., Jan. p. 73) announced his **orange and pecan grove for sale, asks us to** correct the impression that this property is located in southwestern Texas. As a matter of fact, it is in old Mexico, near the border.

What Others are Doing

PLURIVALENT BACTERIAL VACCINES*

The early investigations of bacteriological research were devoted to the discovery of a microbe for each disease. All maladies were suspected of being infectious. Later researches have greatly diminished the number of specific diseases that are due to a definite single pathogenic organism. In numerous infectious diseases, the existence of several germs has been demonstrated; in others, the presence of several kindes of microbes which, while quite similar to each other, yet differ in important biologic characteristics. Thus, the bacilli of the B. typhoid group, the diphtheria bacilli, the dysentery bacilli, the pneumococci, the streptococci, and others.

Since vaccinotherapy is in the foreground of therapeutic measures and is being employed more and more, it seems to be opportune to direct attention to the following facts:

1.—A microbe of a certain group does not give immunity against a related species of the same group. The bacillus of Eberth does not produce an immunity against the paratyphoid A or B, and vice versa.

2.—A same clinical symptom-complex may be due to different microbes. Thus, bacillary and amebic dysentery, infectious rheumatic affections, etc.

3.—In the same disease, different microbes may exert their action simultaneously or successively. Thus, complicated typhoid fever, gonorrhea, mixed chancre.

4.—In case of microbial association, one single microbe predominates and gives the impression of being the sole cause. In the degree in which the virulence of this microbe is lessened, owing to ageing or through an increase in the systemic immunity, the other, associated, germs develop giving the appearance of a secondary infection. However, there are cases in which the associated germ increases the virulence of the first virus. This is the effect, for instance, of the streptococcus upon the Loeffler bacillus.

Let us take, for instance, typhoid fever. It was formerly believed that this was due solely to the action of the Eberth bacillus; and, at the beginning of the war, immunization was done only with a univalent vaccine; the paratyphoid infections being seemingly too infrequent to be taken into consideration. However, cases of paratyphoid increased in frequency, in the vaccinated as well as in the unvaccinated, and the question arose whether antityphoid immunization might not produce a predisposition for paratyphoid.

On the basis of observations in 160 cases of typhoid fever, my late teacher, Professor Chantemesse and I (*Acad. de Méd.* juin, 1916) showed that "typhoid fever represents most frequently not a univalent infection (typhoid or paratyphoid) but a multiple infection made up by a greater or lesser mixture of the three germs of the typhoid group. At times, even, there is superadded an infection with enterococci or with colon bacilli. The infection of the organism occurs usually progressively, as though one of the pathogenic virus prepared the soil for the invasion by the others; but, infection may be simultaneous. In the first case, the intervention of a new germ is shown clinically by modifications in the fever curve (uncertain stage, relapse, return). These last were, therefore, merely the expression of the complex nature of the typhoid infection.

If a person, being in the incubation stage of typhoid fever, is given an injection containing only typhoid bacilli, he will, in all probability, develop paratyphoid; similarly, during the actual typhoid fever, injection of typhoid vaccine does not prevent the occurrence of paratyphoid A and B or infection with enterococci.

Other maladies present the same phenomena. The secondary infections in urethritis acquire, at a certain period, the upper hand over the gonococci. The same is observed in enteritis and probably also in pneumonia with multiple and successive foci of infection, where the four types of pneumococci may infect the lung successively or simultaneously.

In most cases, a single germ is evident, throwing into the shade the other species of bacteria which await the weakening of the predominating microbe before entering upon the scene. It is quite like in mixed chancre. A soft chancre presents, ordinarily, no indication of a different infection; but, at some time

*Translated from the French, of Dr. A. Grimberg; in *Paris Médical*, 25 novembre, 1922.

when all seems to be going well, the patient presents himself with a typical eruption of roseola.

These ideas are of very great importance from the viewpoint of vaccinotherapy.

As a matter of fact, vaccinotherapy must be not only therapeutic—directed against the predominating virus—but also preventive against those germs held in the shadow by the exuberance of the former. For instance, in a given case, nothing may be found but typhoid bacilli; still, a mixed vaccine must be administered since, without it, relapses due to paratyphoid might develop.

A stock vaccine should, therefore, always be made to contain all kinds of germs that may be encountered in the malady under treatment, even though they may often be useless.

The same holds true for autogenous vaccines. If vaccinotherapy is directed against one microbe, only, other species will often multiply. It is necessary to isolate all the pathogenic germs that are found in a specimen of pus and to make a vaccine containing them in sufficient quantity, of each species.

Take, for instance, a specimen of pus containing staphylococci and a few occasional streptococci. At first sight, one might be tempted to make only an antistaphylococcic vaccine. However, when the staphylococcus loses out, the streptococcus will commence to multiply, and the treatment will have to be done all over.

It is therefore necessary that

1.—Stock vaccines should be plurivalent, containing all species and races of germs commonly associated in a given disease. In short, the vaccines should be made rather according to the peculiarities of the disease than according to germs only.

2.—Autogenous vaccines should contain like quantities of all species of germs which are found in the focus of infection under consideration.

LOCAL ANESTHESIA IN MAJOR OPERATIONS

Dr. Edmund C. Roos (*Ill. Med. Jour.*, Jan.) believes that the use of local anesthesia should no longer be confined to minor surgery, and to cases in which the patient apparently can not undergo the ordeal of taking a general anesthetic. Chloroform, ether, and gas, although they have been a great boon to surgery, have so many disadvantages, and their use is accompanied by so much discomfort to the patient, that it is not to be wondered at that local anesthesia is gaining so rapidly in popularity. Not only should local anesthesia be used in Cesarean section when a general anesthetic is contraindicated, as in eclampsia, nephritis, placenta previa with severe hemorrhage, etc., but it should be used in cases of contracted pelvis, obstructive tumors, etc., where the patient's general condition is excellent.

The advantages of local anesthesia in Cesarean section are many, Dr. Roos says. First of all, and the most important advantage is, that novocaine is the safest anesthetic we know of. Large amounts of a 0.5 percent or a 0.75 percent solution of novocaine may be injected without producing toxic symptoms. As much as sixteen ounces of a 0.75 percent solution has been used in one infiltration, and still larger amounts may be used if necessary without any untoward effects. Novocaine produces no circulatory, renal or pulmonary strain or complications. In pregnancy, the kidneys, heart and other organs are already taxed, often to the limit, and are frequently diseased. Why tax them still more up to or above the breaking point by administering a general anesthetic when anesthesia can be obtained satisfactorily without increasing the burden placed on these organs?

Postoperative pneumonia after local anesthesia is an extremely rare condition. The pulse rate, instead of being accelerated to 100 or over, remains at 80 after an abdominal section.

Local anesthesia reduces the shock to both the mother and the baby. Its use necessitates greater care in handling the tissues, thereby reducing trauma and resulting shock, postoperative pain and ileus. All unnecessary haste in performing the operation is eliminated.

If unnecessary haste is used from the time the abdominal incision is made until the final skin suture has been placed, Dr. Roos points out, the tissues are needlessly traumatized, resulting in more or less shock, postoperative pain and ileus. If it is shown that local anesthesia reduces shock in the mother, it is logical to believe that the shock to the infant is also decreased. As yet, no toxic manifestations of the novocaine have been observed in the baby.

Postoperative nausea and vomiting, a great source of discomfort to the patient, are usually entirely avoided. The absence of vomiting also eliminates the strain put on the abdominal incision with its resulting pain and danger of breaking the sutures.

If the patient is given a small dose of morphine and scopolamine an hour before the operation, and this dose perhaps is repeated in

half an hour, her memory sense will be deadened, so that she will not remember even the trip to the operating room or what occurred after she arrived there. After the patient is returned to bed, she will usually drop off into a natural sleep lasting from four to eight hours. To relieve dryness of the oral membranes and thirst, and to replenish the vascular system with fluid, the patient may be given, immediately after operation, an enteroclysis of three quarts of tap water, at 100° F., to which four drachms of sodium bicarbonate have been added.

Conclusions

1.—Local anesthesia should be the anesthetic of choice for all cases of Cesarean section, instead of being reserved for cases in which a general anesthetic is contraindicated.

2.—The interest of the patient should be the main consideration in the choice of an anesthetic.

3.—Novocaine is the safest anesthetic known at the present time.

4.—By using local instead of general anesthesia, the patient's postoperative discomfort is greatly lessened, convalescence is shortened, and the tendency to complications reduced.

5.—With the proper equipment and technic, the time of the operation is not greatly increased.

6.—Cesarean section can be as easily and as painlessly done as a hernia operation under local anesthesia.

COMBINATION SEDAN AND AMBULANCE

We wish to call the attention of our readers to a suggestion by Dr. John B. Potts, of Omaha (*Jour. A. M. A.*, Jan. 13, p. 102), according to which a sedan that has doors coming together in the center can be converted into an ambulance with very little difficulty. The change is made by removing the center post, which is held at the bottom by metal dowels, and at the top by a wing nut. After the post is removed, the larger half of the front seat and the auxiliary seat is taken out, and a board is laid on the floor to make a level surface, on which a carpet is laid. This is done quickly, and requires little or no skill. In a sedan thus converted, the space between the front and rear of the car is sufficiently wide to hold a Bomgardner cot. The foregoing can be furnished by Mr. Pfeiffer of the Pfeiffer Top and Body Corporation, Omaha.

A cut accompanying Doctor Pott's article shows clearly how easily the adjustment suggested by him can be made. This may be of great value for country physicians.

KAHN TEST FOR SYPHILIS

A preliminary report by Dr. C. C. Young (*Jour. A. M. A.*, Nov. 11, 1922) is based on 500 examinations, made since July 1, 1922, by the Bureau of Laboratories of the Michigan Department of Health. The following are the author's summary and conclusions:

The need for a test possessing fewer sources of error than the Wassermann test, has been felt in public-health laboratories where personal contact between physicians and laboratory workers is lacking on account of distance. The standardization of the Wassermann test, although helpful, would not, in our opinion, solve the problem of serum diagnosis of syphilis because of the numerous variables that are inherent in the test. Judging from experience gained in more than 20,000 Kahn tests, 5000 of which have already been reported to physicians, we believe that to check each Wassermann test with this simple test is at present the best solution of the problem. We do not believe that it is the final solution of the problem, because we are dealing with tests of which the biology as well as the physical chemistry is very little known. But we do believe that to report the two tests to physicians gives them a far more dependable laboratory diagnosis than the Wassermann test alone can possibly give.

It is recommended that the Kahn precipitation test be investigated in public-health laboratories, with a view of establishing it as a routine check on the Wassermann test and thereby increasing the dependability of the laboratory diagnosis of syphilis.

ANURIA FOLLOWING MERCURIC CHLORIDE DOUCHE

In the *Journal of the American Medical Association* (Jan. 13, p. 102), Dr. G. W. Outerbridge reports a case in which sudden, intense and protracted symptoms of a profound toxemia occurred involving the renal, gastro-intestinal and hematopoietic systems. The trouble followed upon a vaginal douche of a small amount of moderately-strong mercuric chloride solution.

The patient was a iii para, aged 38, who dissolved two tablets of mercuric chloride in a glass of water and used it as a douche. Almost immediately, she began to have severe burning in the vaginal region, and abdominal cramps, with a chill lasting half an hour, fol-

lowed by vomiting and diarrhea. She said that she walked the floor in agony all that night. The next day, she called a physician, who packed the vagina loosely with gauze. On the afternoon of May 29, the patient was sent to the Abington Hospital, where she was admitted to the isolation ward, as she had been taking care of her children, who were sick with measles.

On admission, the teeth were bad, the gums reddened. The breath was fetid, the tongue dry and splotched. There was excessive secretion of saliva. The heart and lungs were normal. The abdomen was scaphoid; it was not tender; there was gurgling peristalsis. The external genitalia very much swollen and excoriated; the entire vagina was fiery red except where covered with irregular patches of greenish-gray exudate; there were similar patches on the vaginal portion of the cervix; there was a very foul vaginal discharge; the vagina was entirely anesthetic on examination. The temperature and pulse were normal. Blood examination revealed: hemoglobin, 65 percent; erythrocytes, 3,100,000; leukocytes, 14,400. No urine was obtainable for examination, and the patient stated that she had passed practically none all day.

Because of the time that had elapsed since the administration of the douche, it was not believed that calcium sulphide would be of use, and the patient was put on ordinary eliminative treatment, to which she responded very poorly, getting gradually worse. Complete anuria was present, repeated catheterizations showing the bladder to be absolutely empty.

Under gas-oxygen anesthesia, both kidneys were decapsulated. The night following the operation, the patient passed 2 ounces of urine, and a total of 8 ounces in the first twenty-four hours after operation. For the next six days, the amounts ran from about 6 to 12 ounces in each twenty-four hours; on the eighth day after operation, elimination rose to 18 ounces, on the eleventh day to 30 ounces, and on the twelfth day to 64 ounces. From then on, the daily output ranged from 90 to 110 ounces.

Following operation, the patient was given hot packs and other customary eliminative treatment, to which she responded poorly at first, and somewhat better after a few days. She soon developed an intense gastroenteritis, marked by very frequent, thin, liquid, brownish or bloody stools, and severe abdominal pain and tenderness. This continued for several days, and then gradually cleared up.

After that, the course of convalescence was greatly delayed by various other complications, especially intense and high-grade anemia; which, however, gradually were overcome and, in the course of six months, the patient had fully recovered.

A NEW OPHTHALMIC TEST OBJECT

Invented by James W. Gaffey, M. D., Cedar Rapids, Iowa. Patented December 26th, 1922, patent No. 1,440,351, described by the doctor as consisting of a casing having spaced sight openings therein. These sight openings form a miniature dark room. Two indican-carrying discs are mounted for rotation within the casing, said discs having spaced openings adapted to be singly brought into register in either of the sight openings, exposing the test object individually in a selective position in the miniature dark room to a central fixed point; the test objects that are used to determine the normal keenness of vision to be the power of distinguishing objects subtending an angle of five. The test objects are formed of strokes whose width is 1/5 the size of each test object; consequently, they are seen under an angle of only 1, the relation of the size of the object to distance at which it should be discerned by a normal eye. The scientific exposing of the test object eliminates the dark room.

This instrument has been designed to provide a simple, practical, and scientifically exact means of testing the keenness of vision, and applying other tests that are of use in eye examinations, such as the testing of color perception, the determining of the amount of astigmatic error, axis of astigmatism. The test apparatus can be universally used in the office, clinic, school, army and navy, for persons of all nationalities.

NEWS

Dr. Gilbert T. Smith, formerly Chief Medical Officer of the Steamship "Reliance" of the United American Line, has been appointed Chief Surgeon of the Steamship "Resolute", sailing from New York on January 9th on a tour around the world, the steamer having been chartered for this purpose by the Raymond & Whitcomb Company of New York.

At the regular meeting of the Medical Board of the Bronx Hospital and Dispensary, held on December 28th, Dr. William J. Robinson and Dr. Martin Rehling were unanimously re-elected President and Secretary, respectively, of the Medical Board, for the twelfth successive year.

Among the Books

TAYLOR: "MONTAIGNE"

Montaigne and Medicine. By James Spottiswoode Taylor. New York: Paul B. Hoeber. 1922. Price $3.75.

Here is a charming book which, for itself, a book lover delights in. There are some books that we like to hold, to fondle; in fact, to examine deliberately and leisurely. If the contents correspond to the mechanical make-up, so much the better. We are accustomed to receiving beautiful books from Mr. Hoeber who strikes us as an idealist in book making. Sometimes, indeed, we wonder whether some of his publications really pay in money and not only in satisfaction.

It is to be hoped that this delectable volume on that genial philosopher, Montaigne, will be acquired by many physicians for leisure-hour reading, where it may prove the source, not only of keen enjoyment, but also of practical stimulation. While it is not to be expected that we study medicine from writings over three hundred years old, Montaigne's essays, nevertheless, contain homely truths of everyday interest, especially regarding physicians and patients. There is much in the abstracts and excerpts from these essays, reproduced in this volume, that the physician will ponder and that may help him in his dealings with his patients.

Montaigne was born, we are told, in 1533. His father was a wealthy burgher who gave his children a careful education. The young Montaigne grew up in easy and comfortable circumstances and, at the age of thirty-three, he married a woman of good middle-class family and respectable fortune. His biographer informs us that she made him a good wife, the union fully meeting the husband's requirements. He adds, however, "we have no way of knowing how satisfactory it was to his wife. Presumably, it had all the disappointments usually accruing to the helpmate of a student and scholar."

Speaking of Montaigne's relation to women, we learn that his writings have some pointed allusions to the peculiarities of the fair, both maids and wives, but he may be regarded as an early recognizer, if not an apostle, of the doctrine of the equality of sexes, holding that, "apart from education and custom, the difference is not so great."

Montaigne's essays are freely excerpted and drawn upon to demonstrate his genial, kindly philosophy of life. He is quite prolific in descriptions of his personal habits, his likes and dislikes, his preferences; in fact, he feels himself quite human and, in the words of Terence, holds nothing of human peculiarities as being foreign to him.

While always of slight and delicate constitution, though healthy enough through his adolescence and manhood, he later on acquired a nephrolithiasis and suffered the justly feared torments of gravel and stone. For these, he would not on any account submit to the customary ministrations of the physicians of his day whom, indeed, he called in only casually, possibly for "moral support," and for most of whom he entertained a good-natured contempt which is manifested in the gentle but keen sarcasm with which he describes their customs, their failings, their limitations. Not that he refused to pay tribute to medical men of whose good faith and erudition he had convinced himself. Indeed, being through necessity a close observer of disease, he naturally extended his observations to the healers of disease and was free to give credit where it was merited, while he never hesitated to criticize when he thought it necessary.

Through his frequent attacks of brutal pain, he naturally accustomed himself to the idea of death and he speaks of it without fear, without morbid anticipation. There are few things with which we concern ourselves in our daily lives that were not mentioned, several times, in his essays. He relates how he took care of his teeth, how he insisted on personal cleanliness, found it useful to fast occasionally, although commonly moderately fond of the pleasures of the table. He was kind to animals and was especially fond of horseback riding. Like the little boy who scratched himself because it itched, he found this exercise pleasurable, indeed he calls it one of the little luxuries of life.

Speaking of solitude, he says that "every man should have a back-shop all his own . . . in which he can establish his liberty, his chief refuge, his best solitude. And here it is that he must hold his ordinary intercourse with himself . . . Miserable, to my way of thinking, is he who hath no place where he can be at home to himself, where he can privily

court himself; where he can hide himself. To me it is much more bearable to be always alone than never."

It is apparent from these remarks that Montaigne was a bookworm, a student, a scholar. Indeed, he enjoyed a library of about one thousand volumes (which for that period was considerable), which was housed in a tower apart from his chateau and where he also had his bedroom. "His beloved refuge", we are informed, "that famous temple of the soul but for which the world of letters and the world of thought would have been infinitely the poorer, had on the ground floor a chapel. Mass said there could be heard by the lord of the domain lying comfortably in bed above. The second story contained the library and a communicating chamber, cozy and warm. The regular bedroom was on the third story. The walls of the library were decorated with musical instruments, pictures, inscriptions. On the rafters were favorite sayings from Homer, Horace, Plato, Pliny, St. Paul, Terence, Ecclesiastes, the Psalms, etc. The books of which the owner was justly proud, numbered a thousand, a goodly and unusual collection for citizen or king. Of these thousand volumes, but seventy-six have been positively identified. Someone, by accident, picked up, in a second-hand shop in Paris, his copy of Cæsar's "Commentaries" with over six hundred annotations in the essayist's own hand. We know that he had a Greek Bible, Munster's "Cosmography" (a sort of guide book to Europe), four works on theology—two of them heterodox—and five volumes on law and medicine respectively. In his retirement, Montaigne turned to books. He could not play the gentleman farmer and cared nothing for the breeding of cattle nor did the country charm him except as it afforded quiet. He does not gaze from his window to note, like Horace, how deep the snow rests on hillside or mountain; his years of bucolic life enabled him to add nothing to the teachings of Virgil.

When importuned, to "enter into a course of physic for the sake of his illness, he told the doctors that they must give him time to recover his strength and health so that he may be the better able to support and encounter the violence and danger of their potions. He preferred to let Nature do her work, supposing her to be sufficiently armed to defend herself from the assaults of infirmity . . ." Elsewhere he remarked, "Plato had reason to say, that, to be a right physician, it would be necessary that he who would take it upon him, should first himself have passed through all the diseases he will pretend to cure, and through all the accidents and circumstances whereof he is to judge. For my part, I should put myself into such hands."

We believe that we have said enough to arouse our readers' curiosity. We have found keen enjoyment in reading this book for which the Editor deserves grateful thanks.

Montaigne, while a critic of the medical profession, was a fair critic. He was gentle in his blame, pleasantly sarcastic (if we may say so) in exposing our foibles, but he also gave good advice and wholesome suggestions. He did not damn us root and branch, nor did he call us fools or knaves as some of our modern, self-appointed, fanatic critics do. He was *not* a fanatic. Far better, he was thoroughly human.

HOOKWORM DISEASE BIBLIOGRAPHY

Bibliography of Hookworm Disease. The Rockefeller Foundation. International Health Board. New York City. 1922.

This bibliography of special publications, all devoted to hookworm disease, contains 5680 entries, showing the enormous interest attaching to this particular infection. The bibliography became necessary through the work of the Rockefeller Sanitary Commission in assisting the southern states in measures for the control of hookworm infection.

The list of references is preceded by a condensed historical sketch of studies on the subject. It is followed by a list of periodicals, by an authors' index and a subject index. Needless to say, it is of immense value to all those whose investigations relate to hookworm.

SHORT: "PROGNOSIS"

An Index of Prognosis and End-Results of Treatment. By Various Writers. Edited by A. Rendle Short, M. D., B. S., etc. Third Edition, Revised and Enlarged. New York: William Wood and Company. 1922. Price $12.

When a patient consults a physician, the first question is: what is the matter? and the second, what will be the outcome? Both questions are of paramount importance. And, be it remembered, the matter of prognosis is of no less practical interest than are those of diagnosis and treatment. Will recovery be prompt or slow? complete or partial? Will there remain permanent faults, or results? All these are points concerning which the patient or the family will want to be enlightened. To put them off by side-stepping the question, will lessen confidence in the physician.

A book that is devoted entirely to a consider-

ation of prognosis is novel and unique. This present volume is, we believe, the first American edition to be published, the work having appeared, first, in 1915, in England. There can be no doubt about its usefulness which extends not only to the hospital physician or surgeon and the clinician, but no less to the general practitioner. We have read a good bit in the 578 pages of text and are fully convinced of the great service that this book will render to physicians, no matter what their status or their special field of work may be.

POTTER: "VERSION"

The Place of Version in Obstetrics. By Irving W. Potter, M.D., F.A.C.S. Illustrated. St. Louis: C. V. Mosby Company. 1922. Price $5.00.

Doctor Potter's method of version is becoming well and favorably known. Certainly, it appeals to one as very feasible and thoroughly practical on the principle of "practice makes perfect" which, the author informs us, has worked out in his own case. At first, he employed version only as an alternative of high-forceps delivery. The more he practiced turning, the more expert he became. Gradually, he increased the indications and enlarged the field for the version operation until, now, at least ninety percent of his cases are delivered by version with no maternal mortality in his last 938 cases and a fetal mortality of 2.3 percent, not counting macerated and dead feti or babies whose cords did not show any pulsation when delivery was started.

In support of version, Doctor Potter points out that the second stage of labor is thereby eliminated. The women do not suffer any of the pain usually consequent upon this stage; the vagina and perineum are not subject to long hours of stretching, resulting in quick retraction, so that relaxed and gaping outlets with protruding and falling bladders and rectoceles do not occur in his patients. Finally, the author is able to complete the delivery within an hour—an important saving not only of time but also of effort and strength, both for the patient and for the physician.

While it may seem dangerous to complete a delivery "within an hour", as the author does, consultation of the text will show that he is careful to "hasten slowly". It must not be inferred that he *yanks* the baby out of the parturient canal. On the contrary, his method is deliberate and pays careful attention to the possibilities of producing injury which is prevented as much as possible.

The book is beautifully illustrated; the text is clear; the paper is good. All physicians doing obstetric work should study the text. It will make the better obstetricians of them.

BELL: "FEEDING OF CHILDREN"

Feeding, Diet and the General Care of Children. A Book for Mothers and Trained Nurses. By Albert J. Bell, A.B., M.D. Illustrated. Philadelphia: F. A. Davis Company. 1923. Price $2.00.

Here is a little book that will be very attractive to those for whom it is intended, namely, mothers and nurses who have the care of children entrusted to them. The text is not continuous but is prepared in brief, terse, paragraphs following bold-face titled that are splendid for rapid orientation. The subject matter is arranged logically and the ideas are sound. We can recommend this volume for the use of those for whom it has been written.

HESS: "INFANT FEEDING"

Principles and Practice of Infant Feeding. By Julius H. Hess, M.D. Illustrated. Third Revised and Enlarged Edition. Philadelphia: F. A. Davis Company. 1922. Price $4.00.

In contrast to the preceding book, the one by Hess is for the guidance of physicians and teachers and for the use of students Originally, it was to be used in preparation for clinical conferences—which makes it all the more appropriate for physicians.

While the text is concise, it is full enough to serve the needs of general practitioners. Part I deals with general consideration; Part II with nursing for infants; Part III with artificial feeding; Part IV with nutritional disturbances in artifically fed infants; Parts V to IX are devoted to rickets, spasmophilia, scurvy, acidosis, anemias of infancy. All these pathological discussions are immensely important to those treating babies and small children. They deal with those accidents and affections for which mothers are most likely to consult the physician.

The appendix discussess proprietary baby foods. It gives directions for the preparation of infant foods and deals with several other important topics. The book is good and useful.

NEWMAN: "TWINS"

The Physiology of Twinning. By Horatio Hackett Newman. Chicago: The University of Chicago Press. 1923. Price $1.75.

The question: "Why twins?" is one frequently asked. A morphological and biological study

of the causes of twinning and of other details of this process naturally interests physicians and, for this reason, this attractive little publication, gotten up by the University of Chicago Press, will be studied with interest by the students and scholars of the medical profession.

PHILLIPS: "EAR, NOSE AND THROAT"

Diseases of the Ear, Nose and Throat, Medical and Surgical. By Wendell Christopher Phillips, M.D. Sixth Revised Edition. Illustrated. Philadelphia: F. A. Davis Company. 1922. Price $8.00.

The author informs us, in the preface to this edition of his book that it has been his continued desire to thoroughly Americanize this volume by giving preference to the achievements of American otologists, rhinologists and laryngologists in the belief that, wherever it may be read, it should stand for American ideals. In view of the fact that it is used as a textbook, not only in medical schools of this country but also of many foreign countries, this is a laudable policy and one that will help to show that American specialists are doing much and valuable work in the diseases of the organs concerned.

An examination of this book impresses us with the fact that it is not only useful to the specialist but may be consulted to great advantage by the general practitioner. While much of the text may be beyond the latter, since he does not possess either practice or dexterity, nor training to carry out many of the operations suggested, nevertheless, he should be familiar at least with the theory and, to a great extent, with the practice. The book is beautifully illustrated and we like it.

"MEDICAL CLINICS OF NORTH AMERICA"

The Medical Clinics of North America (Issued Serially, one number every other month). Volume VI. Number 3. November 1922. By New York Internists. Philadelphia: W. B. Saunders Company. Price, per clinic year (July 1922 to May 1923), Paper $12.00; Cloth $16.00.

The New York Number of the current volume of "The Medical Clinics of North America" contains eighteen clinics and contributions by attendants in various New York hospitals. Just a few of the subjects are: Management of Patients with Heart Disease During Pregnancy and Labor; The Principles Underlying the Treatment of Diarrheas; Atropine in the Treatment of Congenital Pyloric Stenosis; Maintenance by Diet in the Treatment of Diabetes Mellitus; The Management of Early Cases of Chronic Infectious Arthritis; The Tonsils in the Tuberculous; Common Pituitary Syndromes; Certain Aspects of Eczema and Asthma in Infancy and Childhood from the Standpoint of Allergy.

GREENE: "MEDICAL DIAGNOSIS"

Medical Diagnosis for the Student and Practitioner. By Charles Lyman Greene, M.D. Fifth Edition Revised and Enlarged. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1922. Price $12.00.

Mechanically, consultation of this book is facilitated by the generous use of marginal subheads which makes it possible to find information on any desired topic very readily.

The text proper, dealing with the diagnosis of disease, is preceded by a consideration of certain fundamental principles and special problems, followed by a few paragraphs on case taking and a chapter on outward signs of disease. The next chapter deals with age, race, sex, habits, social state and residence; the succeeding one with history and analysis of the "present ailment", and then follow the discussions of diseases.

In his first chapter, the author is epigrammatic. He says, for instance, that the civilized world is thronged with eager altruists seeking new medical truths; the result being a vast continuous outflow of honest, but more or less imperfectly established and unproven assertions, together with a small but persistent trickle of valuable facts, which tends constantly to raise the level of scientific fitness and practical achievement. To separate the wholesome grain of truth from the great volume of chaff is a never-ending task of no small magnitude.

Speaking of the glamor of a great name, the author picks out Koch's tuberculin as a useful example: "Every medical man knows now that harm resulted from a wholly natural overconfidence in the honest, but mistaken, oversanguine and premature, announcement of a genuine discovery by one of the greatest and most sincere of medical investigators, who, despite this one error has placed the entire civilized world under a debt of gratitude."

It is a question whether Koch actually committed this one error. It is well known that the announcement of tuberculin was made too early and that further investigations should have been carried on. Quite recently, somebody who knows told the Reviewer that, one

day, in 1890, Koch entered his institute in great distress and said to his colleagues: "The emperor commands me to give out tuberculin. My God, I can not do it now; it is too early!" Koch did not wish to announce the remedy yet. He realized that the time was not ripe. All this, however, is by the way.

It is hardly necessary to say anything in praise of Greene's "Medical Diagnosis". The book is so well known and so generally in use that we may content ourselves with calling attention to this new edition.

ABBOTT: "WHAT COMES FROM WHAT?"

What Comes From What? or the Relationship of Animals and Plants. By Charles L. Abbott. Published by the Author, 600 Ivy Street, St. Paul, Minn. Pamphlet, 48 pages. Price $1.

This pamphlet contains 41 diagrams, with explanatory notes, in which plant life, beginning with the bacteria, and animal life, beginning with the sponges, are traced to their full development and evolution Coming to the Primates, including man and the apes, monkeys and lemurs, the author finds that man was differentiated from the apes in the Pliocene, or possibly as early as the Miocene, period; that is to say, about three million years ago.

The notes as well as the diagrams are full of interesting things. To the student who likes to trace matters back, there is much information of interest to be gotten.

KENDALL: "BACTERIOLOGY"

Bacteriology. General, Pathological and Intestinal. By Arthur Isaac Kendall, B.S., Ph.D., Dr.P.H. Second Edition, Thoroughly Revised. Philadelphia and New York: Lea & Febiger. 1921. Price $6.00.

While this book, now in its second edition, should have been announced several months ago, the oversight being deplored by the Reviewer, there lies a small compensation in the fact that the author, unlike a certain critic and detractor of practical immunization (which might be designated, in one sense, as applied bacteriology), is rather favorable to that mode of therapeutics than otherwise. True, he realizes that the method is still, to some extent, experimental, but he finds that it has accomplished actual results. In view of certain recent criticisms of the clinical application of vaccine therapy, Kendall's views are encouraging.

If we consider that, as the author points out, bacteriology is a young science [only between forty and fifty years old; but, in view of modern facilities of communication, centuries old in terms of olden times.—Ed.], we have cause to be pleased with the many splendid practical results and benefits that have accrued from this science. Errors have been made and will be made; but, "the errors of the present will prove the starting points for future study and rectification".

To us, as physicians, the practical application of bacteriology, namely, immunology and immunization, appeals more particularly. Regarding this, the author says that "the value of vaccines and of autogenous vaccination in bacterial prophylaxis and bacterial immunization, as set forth by Wright" [whom one writer recently designated as 'an Englishman, named Wright', as though he were a somewhat obscure person.—Ed.] "marks a distinct epoch in bacterial therapeutics . . . He has used bactrial vaccines both for prophylaxis—to prevent infection with specific bacteria—and therapeutically—to arrest infection."

While Kendall holds bacterial vaccines to be contraindicated in acute diseases, generally speaking, he says that they may be employed in practically any localized infection, or an infection which has become chronic. "Generally speaking," we agree with him in that position. However, there are occasions when, even in acute affections, a bacterial vaccine may be employed with quite manifest benefit. Even in pneumonia, such preparations are occasionally administered with excellent results.

To return to the book as a textbook of bacteriology, we are free to say that it is one of the best on the subject that we know. The author is not only a bacteriologist or a scholar; he has taken pains to watch the practical working-out of the laboratory results. He writes as he speaks: clearly, lucidly, impressively. The book is very much worth while.

Exchange your 1918 War Savings Stamps for 4% Treasury Savings Certificates at Your Bank or Post-Office Now.